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Outlook for Price Bros. & Co. Reorganization

Despite Impasse Brought About by Upset of Former Plans, Threatened Foreclosure of Big Canadian Newsprint and Lumber Organization May be Averted—Compromise Between Preferred Shareholders and Other Interests Concerned, Hoped For—Some Concessions Would Doubtless Bring About An Agreement

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., July 9, 1934—While there are no new developments to report in connection with the impasse brought about by the upset of the plans for the reorganization of the great newsprint and lumber firm of Price Bros. & Co., there is a general impression here that a compromise will be effected between the preferred shareholders and the other parties whereby the threatened foreclosure will be averted. The situation as it at present stands is outlined in the following editorial in the current issue of the *Financial Times* of Montreal:

"From time to time in the past the *Financial Times* has deplored the tendency to force upon preferred shareholders, in the event of a corporate reorganization, sacrifices out of all proportion to those asked of other classes of security holders. Being neither a creditor nor a full partner in the company, the preferred shareholder has been too often squeezed between the upper and nether millstones, and a withdrawal of public confidence in this class of security has been an inevitable result.

"During the past week, however, we have seen a reversal of these conditions, with preferred shareholders of Price Bros. & Co., in receivership, taking advantage of their position to block the ratification of a plan which had been formulated after many months of negotiations, and thus raise the spectre of foreclosure, with its attendant delays and expense, for the pioneer Quebec newsprint producer.

"It is significant that the Preferred Shareholders' committee, at an earlier stage in the negotiations, had expressed its tentative approval of a plan submitted by one of the two financial groups that are associated jointly in the latest offer. The terms then offered to preferred shareholders appeared to be, if anything, less favorable than those extended under the joint plan. The committee announced its opposition to the plan a bare week prior to the holding of the general meeting, stating that it was doing so in order to permit shareholders not in sympathy with its stand to withdraw their proxies. The time granted between the date of the announcement and the time of the meeting was, however, entirely inadequate to permit of any material withdrawal of support—this in view of the wide distribution of the shares, not only from one end of Canada to the other, but also outside of the Dominion.

"Considering the condition of the company and of the industry in which it operates, the offer made to the preferred shareholders of Price Bros. compared more than favorably with the treatment accorded the same class of security-holders in the vast majority of reorganizations during the past ten years. Under these circumstances, it is difficult to justify the attitude of the committee which may wreck the work of months of negotiation and raises the threat of foreclosure under which preferred shareholders would be unlikely to obtain terms as favorable as those the committee representing them have refused.

"It is, however, hardly conceivable that the various interests involved will permit the situation to become so serious as to result in the threatened foreclosure. Some concessions, possibly on both sides, would doubtless be sufficient to bring about an agreement."

New Type of Bark Drier

At the Canadian International Paper Company's mill at Dalhousie, N. B., the largest bark drier ever manufactured in Canada, and the first of a rotary louvre character fabricated in this country, is now being installed. This piece of equipment, which is 24 feet long and 12 feet in diameter, will be employed to dry bark used in the manufacture of newsprint.

It is maintained that an important requirement of the industry will be met through the provision of this bark drier, as there is said to be no equipment available for the adequate of such refuse, which is often thrown into the rivers, thereby polluting the streams and in many cases impairing the fishing. After the bark has been dried, it can be burned with little difficulty, steam generated, thereby, being utilized in the mill.

At the same time, the hot flue gases may be utilized for drying other materials. The gases are introduced over a portion of the periphery drum, immediately beneath the material comprising the bed. Full advantage is taken of the sensible heat produced by these as they rise through the bed, ensuring a higher thermal efficiency than is possible by any other known method.

Material to be handled is introduced through the chargnig funnel, and passes through the drier partly by reason of the pressure of incoming material, and partly by the rota-

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Demand for Paper Slightly Spotty In Chicago

Although Business Conditions Are Affected by Midsummer Holidays, Position of Fine Paper Market Continues Practically Unchanged—Fairly Persistent Request Experienced for Kraft Wrapping Paper—Board Situation Little Altered

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., July 9, 1934—The holiday and the let down after the many busy sessions of last week left its mark on business in the Chicago paper market during the last few days. Definite summer lessening of demand is reported as noticeable, while hesitation prior to final acceptance of the revised code is also reported to be assisting in the comparative quiet. Newsprint representatives here —and ground wood executives as well—are concerned over the revived activity relative to the newsprint situation and hopeful that some standardization may soon come. Fine papers were little changed during the week with demand slightly more spotty. It seemed fairly obvious to observers that the market was "catching up with itself" and straightening out a number of matters discussed in Chicago last week. Krafts were in fair demand locally, while specialties were reported to have declined in activity during the shortened week. The board market was unchanged, while book and cover manufacturers reported a similar lack of anything specific to report. Waste paper markets were also quiet as the month got under way. Markets, in general, were hearteningly firm.

Northwest Paper Golf Tournament

The annual invitation golf tournament sponsored by R. M. Weyerhauser, of the Northwest Paper Company, Cloquet, Minn., again drew its quota from the Chicago district, as a number of Chicago paper men went to Cloquet on June 28, 29 and 30 to enjoy the golf and participate in the splendid array of prizes. Beginning as an event of Northwest executives only, the Weyerhauser tournament has each year drawn an addition of guests from many lines of business, until a total of 71 players enjoyed the 1934 variety of Weyerhauser hospitality. Included in the Chicago contingent were I. L. Gartland, general manager in this territory of the Northwest Paper Company; R. C. Johnson, also of the Chicago office of Northwest; T. W. Heitz, Western Tablet Company; and Henry Prosser, of Bermingham & Prosser. Another gentleman traveling a long distance to the event was H. F. Brubaker, Brubaker Paper Company, of Pittsburgh, Pa. Paper manufacturers and representatives in the Minneapolis and St. Paul territory were numerous.

Airplanes Insulated with Seapak

The *Vultee*, newest and reported to be the fastest of American air transports, has adopted Seapak sound and temperature insulation throughout the cabin, according to the Seaman Paper Company, Chicago, manufacturers of this widely used material. Lockheed, widely known in aviation circles, is another concern which has recently adopted Seapak for the insulation of cabin planes. With the addition of *Vultee* to the list of Seapak users the Seaman company is now supplying virtully all leading transport planes with its product, according to George M. Seaman, president of the Chicago concern. Planes insulated with Seapak include the Vultee, Douglas Airliner, Curtis Wright Condor, Boeing, Stinson, Northrup and Lockheed. Seapak, according to the manufacturers, consists of kapok in a flexible sheet and represents the first successful effort to convert kapok into a stable form, says the manufacturers. Its development began less than two years ago. Since that time the product has not only proven popular for aviation insulation purposes but also has met with quick acceptance in the automotive automobile and truck field, here and abroad.

News of the Trade

Variety in house organs through the use of a different color of paper each issue is recommended to house organ editors in Chicago by the Miami Valley Coated Paper Company. Another suggestion for variety is that of using a paper such as Duplex Enamel which comes in eleven different color combinations, the opposite sides of each sheet being different in color. Miami is also meeting with success in the introduction of Titantex, a light weight strong paper fashioned from a twelve pound onion skin stock base, coated with a mineral element, titanium, which gives strength, opacity, surface and character, according to the manufacturers. The new paper comes in unglazed, hygloss and cockle finish in five colors. Samples are being sent out through the manufacturer at Franklin, Ohio, and from the new Chicago office of Miami located on the eleventh floor of the Conway Building, under the supervision of C. P. Trosch.

Worthwhile methods of widening demand for paper boxes are suggested in a recent statement made by H. P. Beckett, of the Paper Box Manufacturers Association, which was widely reprinted in the foreign press. Mr. Beckett suggests that with production and material costs at present levels the set-up paper box offers an unusual opportunity for the sales-minded executive. No other type of package, he says, offers equal opportunity for experimenting, for a manufacturer can employ several packages, at little expense, to uncover relative sales effect. Mr. Beckett suggests that manufacturers can and should utilize several packages for their experimenting, permitting the ultimate consumer to do the experimenting.

One of the most popular spots at A Century of Progress Exposition, at least from the standpoint of exhibits, is to be found in General Exhibits Building, number 2. The combination of finished product and the story of paper making at the Paper Foundation exhibit has been fascinating to a good share of the three million people who have already attended the Fair. The House of Paper continues to be a focal point of interest, with the many household uses of paper featuring the exhibit under the direction of W. J. Miskella.

Invitations are going to paper salesmen and executives to attend the third monthly golf outing of the Mid-West Division of the Salesmen's Association of the Paper Industry, slated for the Bob-O-Link Golf Club, July 20. According to R. R. Cook, chairman of these monthly events, a record breaking crowd is expected. This means that well over fifty salesmen and guests are planning on the big one day program and a shot at the long list of prizes which always feature these events.

New L. L. Brown Agent

The Missouri-Interstate Paper Company of Tulsa, Okla., has been appointed a distributer for Browns Linen Ledger and Greylock Linen Ledger, two products of the L. L. Brown Paper Company, Adams, Mass.

Demand for Paper Irregular In Philadelphia

Although Local Paper Market Continues Quiet, However, Some Organizations Report Satisfactory Progress—Inventory Period Takes On Different Aspect Because of Workings of Recovery Code—Paper Stock Division Exceptionally Dull

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., July 9, 1934.—For the most part the paper industry is in the doldrums, although it is interesting to note that in talking with former Governor Judd of Hawaii, who is now vice-president and sales manager of Whiting-Patterson Company, he told your correspondent that business with his firm is very, very good. Then, too, on the coarse paper trade, Sylvester Garrett reports business with him is very good.

The current trend of opinion, however, indicates that the trade is more concerned in the physical situation rather than in dollars and cents. All lines are in the throes of taking inventory, and this year it will take on a different aspect because of the Code with its many ramifications being so very exacting.

In a bulletin just released by the Third Federal Reserve District, the following index numbers for the paper industry—for May, 1934, as compared with May, 1933—are given:

Wholesale Trade

(Adjusted for seasonal valuation)

May 1933	May 1934
51	68

(Not adjusted)

50	67

By way of explanation, adjusted indexes allow for the usual seasonal change, which results from an uneven distribution of business between the months of the year. Unadjusted indexes reflect merely the actual change which may or may not be up to the usual seasonal expectations.

Waste Paper Listless

Consumers and members of the waste paper industry are purchasing on a distinctly reserved scale. Demand currently, as has been the case for some weeks, is not sufficient, from all indications to take up all the supply of most grades offered, and the result is easiness in prices Such changes as are occurring are almost without exception in a downward course, and the prevailing situation is a difficult one, indeed, for packers who are endeavoring to live up to the wage requirements of the Code while laboring under market prices which fail to even so much as cover their production costs.

Paper board manufacturers and waste paper dealers are busy discussing the question of the extremely low market prices now prevailing on waste paper and other problems with which the waste paper industry is faced. It is to be hoped that a constructive program will be adopted which will bring some measure of relief to the sorely tried waste paper industry, now striving to operate under the provisions of the NRA and under prevailing market prices which can mean naught but severe financial loss.

Paper and Cordage Association Grows

The Philadelphia Paper and Cordage Association, Inc., which remained somnolent for many years, but which two years ago reorganized, is doing remarkable work in promoting good fellowship and mutual helpfulness among its members, and at the same time improving business conditions. The members work in close harmony and there has been accomplished incalculable value to the members, who at this writing total 69, and are as follows:

Acme Specialty Sales Company, John J. Shinners, Jr., 1304-18 North Howard street; Albemarle Paper Manufacturing Company, Blair B. Stringfellow, Jr., Richmond, Va.; American Forest Products Company, J. G. Birle, 24th and Race streets; American Lace Paper Company, Lee H. Douglas, 2306 Graslyn Avenue, Upper Darby, Pa.; American Manufacturing Company, H. N. Newell, Front and Shunk streets; American Paper Goods Company, E. C. Buckley, 121 Kent Road, Springfield, Pa.; American Writing Paper Company, F. W. Hastings, 406 Bourse Building; Atlantic Gummed Paper Corporation, Frederick I. Brower, 910 Chestnut street.

Badger Paper Mills, Inc., O. Kai Madsen, 3120 St. Paul street, Baltimore, Md.; Better Packages, Walter W. Rolfs, 401 North Broad street; G. A. Bossler, G. A. Bossler, 306 New street; Buffalo Envelope Company, E. L. Richards, 401 North Broad street.

Denney Tag Company, Harry S. Platt, 1134 Real Estate Trust Building; Diamond Paper and Box Company, B. M. Zieve, 246 North Delaware Avenue.

Eastern Paper Company, Leslie C. Bartlett, 401 North Broad street; W. V. Edkins, 617 Drexel Building.

Edwin H. Fitler Company, D. N. Crimmins, 517 Arch street; J. E. Fricke, W. T. Clark, 40 North Front street.

Garrett-Buchanan Company, Willard F. Parkes, 18 South 6th street; Grady Travers Company, H. G. Kleinfelder, Jr., 210 South 4th street.

T. C. Hanna, 875 Drexel Building; Hinde & Dauch Paper Company, Charles H. Wendt, 348 Drexel Building; F. W. Hoffman Company, Inc., Raymond F. Armstrong, 35 South 4th street; Hooper Paper and Twine Company, George K. Hooper, 105 Church street; J. R. Howarth Paper Company, J. R. Howarth, Jr., 804 Sansom street; Huff Paper Company, Frank T. Hufnal, Delaware Avenue and Spring Garden; Hummel-Ross Fibre Corporation, L. Fitzgerald, Drexel Building.

International Paper Company, D. N. Newell, Ledger Building.

Kalamazoo Vegetable Parchment Company, W. E. Swan, Drexel Building; Krout & Fite Manufacturing Company, Harry R. LeNoir, Jr., 1952 East Allegheny Avenue.

E. Latimer, Jr., 126 North 4th street; E. K. Lay Company, E. K. Lay, 939 Drexel Building.

Matthias Paper Company, Ralph Matthias, 425 Arch street; Mather Paper Company, C. W. Mather, 611 North Front street; Menasha Products Company, George W. Sherburne, 1528 Walnut street; C. Moore & Co., Inc., M. C. Redding, 508 Market street.

National Fibrestok Envelope Company, J. W. F. Blizzard, 427 Moyer street; National Waterproofing Company, Harold B. Collins, Front and Line streets, Camden, N. J.

Paper Manufacturers Company, Inc., V. A. Dirvin, 5th and Willow streets; Peerless Paper Company, I. J. Sheppard, Oaks, Montgomery Company, Pa.; Pjepscot Paper Company, Arthur Schroeder, 42 Broadway, New York;

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Boston Paper Market Shows Seasonal Dullness

Midsummer Vacation Period Tends to Lessen Volume of Business Transacted—Some Paper Manufacturers, However, Report Slightly Improved Demand for Their Products—Request for Various Grades of Fine and Coarse Paper Moderately Active

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., July 9, 1934—With a few exceptions the week was quiet among Boston paper jobbers, the holiday tending to lessen the volume of business. In general, consumers bought for immediate requirements only. In one or two instances, manufacturers' representatives noted a little improvement in the demand for their lines. Some dealers in both fine and wrapping papers found a fair business.

Box board was quiet, with mills closed for at least part of the week. There are reports from various sources that in a certain section outside of New England, box board manufacturers are making concessions in the price of chip board and single manila lined chip to buyers in their vicinity, realizing, however, a profit on their product. These reports are rather disturbing to New England manufacturers, who have made no concessions.

Seasonal dulness continued to prevail in paper stock, although the trade is looking forward to an improvement beginning early in August. There was a slightly better demand for old bagging for paper-making, so that values became firmer. A few mills have already advanced the price. Scrap burlap has moved up to 1.15 @ 1.20 from a former range of 1.10 @ 1.15.

Association Activities

Executive Secretary Frank B. Cummings, of the New England Paper Merchants Association, has sent to all members of the association a bulletin in which is mentioned a prospective label, 3 x 1, reading as follows: "Do you weigh, count, measure your purchases of paper and twine? We recommend that you do. Member of The New England Paper Merchants Association." Each member is asked to please advise the office of the New England Paper Merchants Association if he will be one of fifty to take a thousand of the labels. President F. Bendel Tracy wants to know how many members would use the label.

The bulletin states that "wax paper manufacturers have revised their decision and have made provisions for merchants to handle wax paper on a basis as comparable for handling on similar sized orders by manufacturers." This arrangement, however, will certainly continue only so long as the paper merchants follow the filed prices of the manufacturers and they "do not split commissions" with their trade.

The bulletin also states that "under a ruling of E. L. Mather, Assistant Deputy of Wholesale and Distributing Trade, upon application a member of the paper distributing trade in any particular Trading Area constituting a substantial and preponderous, both in number and dollar volume, may by order establish a work week of less than six days in any Trading Area provided that such reduction of work week does not result in reducing the weekly wage of any employe. The Code Authority at present have on file application from the fine paper merchants of the Philadelphia Trading Area requesting a five-day week."

President Tracy would like an opinion from the Fine Paper Division of the New England Paper Merchants Association as to adopting a five-day week for a ten-week trial period.

News of the Trade

Rutter & McNaught, Inc., have been awarded the contract for Etonian Ledger for the Commonwealth of Massachusetts for July, August and September.

The Barta-Griffin Ink Catalog, which has just been distributed to the trade, has received a wonderful reception by the printers. The book paper used in the catalog consists of six grades, is made by the Champion Coated Paper Company, Hamilton, Ohio, and furnished through the Andrews Paper Company.

Frank H. Merrill, president and treasurer of the Andrews Paper Company, and Fred Herbolzheimer, manager of the fine paper division of that company, have returned from a week's visit to the Fraser Industries, Inc., Madawaska, Me. Several of the New York distributors of the Fraser Industries were there.

Wesley W. Binford, manager of the twine department of the Andrews Paper Company, who had returned to his duties after an illness, feeling in very good health, suffered another attack, and was taken to the Brooks Hospital.

George D. Allen, vice-president and treasurer of Knight, Allen & Clark, Inc., accompanied by Mrs. Allen, is enjoying a two weeks' motor trip.

The Andrews Paper Company has engaged Frank H. Deane, of 85 Osceola Avenue, Providence, R. I., to cover Rhode Island and Southeastern Massachusetts on fine and printing paper. Mr. Deane has been in the printing business seventeen years, and with Livermore & Knight Company of Providence fourteen years of that period. He is about forty years olds and has lived in Providence all his life, except when he was Boston manager for Livermore & Knight Company.

W. M. Kennedy, of the sales staff of Knight, Allen & Clark,, Inc., will pass this week on a combined business and pleasure trip to Philadelphia.

H. H. Rutter, treasurer of Rutter & McNaught, Inc., has returned from a week's vacation on Cape Cod.

$525 Capacitor Cuts Paper Company's Demand Charge $400 a Year

By installing a small General Electric rack-type capacitor rated 60 kv-a., 2 phase, 60 cycle, 2300 volts, the Eaton Paper Company of Pittsfield, Mass., found it received a 76% return on its investment after deducting operating costs, depreciation, etc. Considered over a ten year period, this investment of $525 will return over $4000.

By the terms of its power contract, this company was billed for the year according to the greatest monthly demand recorded. The monthly demand was approximately 134 kv-a. at a power factor of 72.7 per cent.

Generating most of its own power from a reciprocating engine, and using the exhaust steam for heating purposes, this company purchases very little power in the winter time and was required to pay the high monthly demand recorded during the summer months. A survey indicated that a 60 kv-a. capacitor would save about $400 annually.

July—

Fair and Warmer

Dilts

Sixty-five years of experience in building beaters for paper mills in five continents qualifies us to give you good advice.

Dilts

Keep your mill in good condition, —especially your beater equipment. You must make *more* paper and *better* paper, and only in your beater room can you accomplish that. Come to us for advice and assistance.

—Dilts—

MACHINE WORKS Inc. FULTON, N.Y.

"Your Paper Is Made in Your Beaters"

Beating or Jordaning—Which?

By R. D. Kehoe

I find in my recent visits to the mills in America and Europe, an increasing interest in and discussion of this subject. A desire for better stock preparation and saving in power is as good a reason for such discussion as any. As a rule, the mill manager or superintendent talks from the viewpoint of how it applies to his equipment and what is necessary to keep up production and make a satisfactory sheet with his present equipment.

In most cases it is useless for a superintendent or mill operator to think along any other lines, due to the almost universal unwillingness to spend money for changes. As most beater rooms are already crowded, any changes for the better seems to involve building additions. The mill superintendent or manager, who has a multitude of production problems on his hands, or who is only thinking of how he can keep his mill running on orders during these times, in most cases relapses into the attitude of "leaving well enough alone."

Increasing Speed and Improving Quality

However, where the possibility looms up of increasing machine speed, improving the quality of sheets, saving up to 700 k.w. hours per ton over the entire beating and jordaning operation, and reducing quantity of expensive pulps on mixed furnish, without a great cash outlay, or without changes or additions to buildings, it should be a matter of immediate interest.

Going from mill to mill, a wide difference of opinion is encountered. Some are "beater minded," but most are "jordan minded." Some are in favor of more beaters, if they have the space and the beaters. The papermaker naturally leans toward jordans for control of his sheet. If he is short of beating capacity and lacks space, another jordan or two (perhaps with wider bars) is added to "close up the sheet," or to slow the stock to conform to machine speed.

This "easy way out," as I see it, has in time produced a confirmed belief, hard to change, that "paper is made in the jordans"—a fact when beating capacity or proper preparation before the beating is lacking. On the other hand, beaters being available, I hope to convince the "jordan papermakers" that a better and stronger sheet can be made with less power, and with just as much control of the sheet on the paper machine.

I shall attempt to present this in simple terms and language, and resort to as few technical terms, curves, etc., as possible.

As kraft stock requires the most treatment, I shall mostly confine myself to its details.

To Emphasize a Point

To emphasize a point, I shall begin by admitting that the jordan is absolutely essential to control in papermaking with the ordinary type of breaker; but the proper number of jordans, size of bars, etc., to be applied to treatment of stock, should be determined by and based on stock that had been fully brushed out in the beaters. I have seen, and will later describe a strong kraft paper operation where with a special type of beater no jordaning or refining is done, the stock going directly from the beaters to machine chest. Repeated tests in both the laboratory and on the machine have shown a lower horsepower and a better sheet when operating in this way. Jordans were never intended for a brushing or hydrating action, but are for quick and continuous cutting of brushed out fibers to get the right formation of closing of the sheet, right degree of porosity, freeness, etc., and to allow the papermaker a safety valve or control of machine operation, regardless of irregularities in beating operation. In most cases, this can be done with low power and narrow bars and low consistency with plug loosely adjusted. The same "control" is possible with one jordan where two or more are now used. One superintendent said to me: "But what are you going to do if the boss won't let you keep your beater tackle in good shape?" The obvious answer was that the same thing applies to jordan filling.

I believe every one will admit that the answer is the comparison of total power used from the time the pulp is broken out of the bale, or it gets to the beaters from the pulp mills (in cases where converting mill makes its own pulp), with strength of stock of given freeness delivered to machine chest. In other words, the total k.w. hours input over entire preparation, beating and jordaning cycle. A study of conditions in various mills where they make their own pulp indicates that they are getting the most out of their operation mainly because they get a completely broken or defiberized stock into their beaters. which allows them to be quickly filled and the rolls dropped.

In mills where they throw dry pulp sheets into the beaters, or where they use so-called shredders or breakers that at most give the beater rolls a lumpy stock to "jump" over, I have examined stock which contained lumps which the beater roll was still "jumping" over after two or three hours' operation, and this stock goes to the jordan with these lumps to be cut without brushing. There is no use denying the fact that the beater was never intended as a breaker for dry pulp, and when it is used for both purposes, as a matter of convenience, it results in an expensive operation in one way or another. This is emphasized to a greater degree where modern high efficiency types of beaters are used. Many a mill has had its beater room built when they had their own wood, and their own pulp mill, and is still staggering along with, perhaps, an extra jordan or two, with the same beaters used in the dual capacity of beaters and breakers. They buy soft, quick developing pulps at the same price at which they could obtain stronger and better grades, because they could not otherwise get the production of the machine. In the meantime, machine speeds have increased (hats off to the engineers of the paper machine builders), but stock preparation, the "neck of the bottle," has, in most cases, remained at a standstill.

What Is the Answer to the Problem?

Now, what is the simplest answer to the problem? Is it more beaters? If so, where is the space, and what about the power to drive them? As to the first question, I propose to show how it is possible to double the beating capacity without additional space. As to the second question, I propose to show Mr. Superintendent and Mr Papermaker how it is possible to reduce total power by reducing jordan power, and with better results.

If you will think over this problem for a moment with me, I believe you will agree that in the case of using purchased pulp there are three clearly divided operations and for each operation there should be a machine built for highest economy in operation. Leaving out the han-

dling operation—i.e. pumping and chests, the three stages are:

A. Preparation, or breaking
B. Beating, or brushing
C. Jordaning, or refining.

Now, if you are short on "B" with purchased pulp, it must be plain that the more you boost or improve operation "A" the more you can pull up your "B" operation, and by the same token you would at the same time pull up or make your "C" requirements less. I believe every one will admit that the more stock is brushed out in the beater the less jordaning it requires.

So why not go back to "A" and build on a firm foundation? Why make the tail wag the dog? When you do, your power goes up and your quality goes down.

To illustrate: We attempted complete defiberization of dry purchased pulp in one kraft mill where they were putting dry sheets into the beaters. At each beater is a valve that is opened for filling, and then pump is started by push button located at the valve. By complete defiberization I mean all fibers disintegrated without hydration, no lumps, such as are always apparent from usual type of shredder, breaker or pulper.

When dry sheets were thrown into the beater, the rolls, equipped with recording gauges indicated nearly a full hour before the rolls were entirely down. With the completely defiberized stock, the rolls could be immediately lowered after filling (filling time one minute) and the beating time was cut approximately in half.

The average record before installation of the bale pulper was as follows:

Regular operation, average record—April 19, 1933

Beater power, k.w.h. per ton	176.0
Jordan	280.0
Total	456.0

The average operation for six months after installation showed:

Present operation as of October 19, 1933

Beater power k.w.h. per ton	40.6
Complete defiberization k.w.h. per ton	46.3
Jordan operation assumed as above April 19, 1933, k.w.h. per ton	280.0
Total	366.9

DIFFERENCE

The following quotes, with permission of mill management, report of superintendent:

"This letter will be supplemented later by a correction of jordan power figures as soon as collected. Assuming this to be the same savings in power are considered to be:

Tons daily production top liner	60
K.w.h. per ton saving	89.1
Total k.w.h. per ton each day	5346
Estimated at 0.006 dollars per k.w.h.	32.07
Yearly, estimated 250 days	8017.50

"Under the present operation, a labor saving of three men per day or approximately $3,000 has also been effected, and with addition to an electric hoist to pulper conveyor a like saving is promised.

"It has been found satisfactory to reduce the beaters on the line to the number of two for each machine and these are being used for addition of chemicals and colors only. Rating cycle is approximately three-quarters of an hour now and stock at the end of this period is equivalent to better than 90 minutes straight beater operation. This stock, when jordaned, reaches maximum strength easier and gives apparently better formation on the paper machine."

Later, however, by trying different methods, it was found that by throwing one of the idle beaters into operation, another jordan could be cut out, which improved the figures as follows:

Machine production	153.69 tons test liner
Percentage of liner used	24%
Tons of liner	.37
Liner prepared per hour	1.54 tons

POWER CONSUMPTION

Bale pulper	150 hp
3 beaters	136 hp
2 jordans	419 hp
	705 hp
Equals	526 k.w.h.
Equals	324 k.w.h. per ton of 100% Husum Kraft

In this mill they are daily making 16 point test liner with 4 points of kraft, averaging 10 lbs. to the point. Our observation of other mills indicates that they have reached a very low point of power, and very high point of quality.

Among other things, all costing money, I have noticed in other mills the necessary use of hot water to assist beating. On strong Swedish krafts I have seen stock chased around in beaters and chests for hours, and still go lumpy to the jordans. Hot water helps this, but is expensive and harmful to the strength of the fibers. The use of so-called shredders, high density pulpers of "whipper" type does not mean a thing to these "Kamyr Pressed" sulphite pulps; on the stronger grades used for strong kraft paper, I have seen lumpy stock after six hours' treatment.

Better Preparation of Stocks

My appeal to you, Mr. Superintendent and Mr. Papermaker, is to think along the lines of better preparation of stock before beaters, which lifts or boosts your entire stock treatment. Jordan power is expensive power. It can be cut down by feeding your jordans thoroughly brushed out fiber. Let me appeal to you not to let anyone advise you that stock with lumps, or pieces, offers the same thing as completely defiberized stock. Get this kind of stock into your beaters, grind rolls to a better fit, and you will be agreeably surprised at the results, and by results I include saving a maintenance of beater and jordan tackle. The results and proofs of this work can be seen in daily operation.

I submit the following to illustrate the improvement in breaking length, mullen and tear by complete defiberization on dry kraft pulp as compared to raw stock not completely defiberized. This is, of course, an observation from laboratory viewpoint, but, nevertheless, will indicate the relative difference in tests made in Lampen Ball Mill operating 3,000 r.p.m. at consistency of 12. per cent.

DATA OF DISINTEGRATION

(Standard Laboratory Disintegrator)

	75,000 rev.	600,000 rev.	Difference
Breaking length	2929 m	6830 m	65%
Mullen per cent	45%	86%	91%
Elmendorf per cent	164%	213%	30%
Porosity	..	..	..
Freeness (Shopper Riegler)	15°	15°	0%

Data of experiment
Dry kraft pulp
Consistency 1.2%
Running speed: 3,000 r.p.m.

Coming to second stage, i.e. beating or brushing, it will be interesting to note the following figures showing the

wide difference in k.w. hours per ton used for this beating operation in two mills.

Board Mills Using Quick Developing Kraft Pulps for Test Liner

	Beating operation		Jordaning	
	k.w. hours per ton	h.p. hours per ton	k.w. hours per ton	h.p. hours per ton
Mill No. 1....	176	236	280	376
Mill No. 2	299	400	216	290

The figures of power used in various kraft mills, making high-grade kraft paper in the United States and European countries, including multi-wall bag paper for cement, indicate a wide difference, ranging all the way from 340 to 1,100 k.w. hours per ton of 2,000 lbs.

Analyzing the Differences

To attempt to analyze or justify these wide differences is a long story. If these differences existed in modern practice of steam and electrical engineering, the present stock preparatory equipment would be scrapped in many paper mills. Improvements in paper machine design, progressing far ahead of stock preparation, is a credit to the builders of paper machines. To try and keep up to increased machine speeds and production, the poor old beater room has had to grow up like "Topsy." The mill operator, finding no space for additional beating capacity, was sold the idea of making a wide bar jordan do his beating work. Up went the power and down went "Quick Developing Pulps." Consistencies of stock were increased, necessitating changes in beaters, pumps and chests. Paper came to be made in the jordans to a greater extent, the regulating or safety valve for Mr. Papermaker to close his sheet and by hand regulation correct freeness as well as all the deficiencies of preparation before jordaning.

These conditions existing over a period of many years makes it difficult to convince Mr. Papermaker that to improve his quality, reduce his costs, and increase machine production, he has to reverse his entire thought of stock preparation and work from the other end. I have seen some high-grade papers made entirely without jordans, with the required formation to conform to machine speed and incidentally with low power consumption.

The first requirement in mills dependent on purchased pulp, to rebuild the house on a firm foundation, is complete defiberization before beating; the second requirement is beating at high consistency to best results obtainable from the stock and to the required freeness or slowness. The third requirement is to jordan with narrow bars and at low consistency without appreciably slowing the stock down further than the point attained by the beaters. In this manner only are the best results possible with lowest power cost.

On kraft papers, there is every assurance that, following these principles, the total power consumption will not exceed 500 k.w. hours per ton on the best grades (2,000 lbs.) and that it will be considerably less than this where high point of tear, mullen, fold, etc., are not required. A thoroughly beaten kraft pulp will, with ordinary water finish, develop a high degree of smoothness and water resisting. Porosity of high degree and with high tear is equally obtainable with different treatment.

Looking at the entire problem from the viewpoint of the paper manufacturer, i.e.—improved quality and profits, more beating and less jordaning deserves serious consideration. Perhaps in our present lifetime we may outlive all the talk of submitting expensive pulps to "inch cuts per minute" and that we will cease the practice of wasting the best paper making qualities our forests produce by absurd treatment of fibers.

PRICE BROS. REORGANIZATION

(Continued from page 13)

tion of the drum, which is mounted on a suitable framework, and positively driven on rollers. The horizontal axis eliminates the end thrust, which is a material disadvantage of inclined rotary retorts.

The drier was built by Canadian Vickers, Ltd., Montreal, under license from Pulp and Paper Mill Accessories, Ltd., Montreal.

Industry Improves in British Columbia

From Vancouver it is reported that newsprint and pulp mills continue to operate at top of capacity, and that there is a general feeling that an improvement in prices may come towards the end of the year. Although the volume of newsprint production has been at a high level all year, prices have been so low that the margin of profit has been slight.

An encouraging factor is that the allied industry of lumbering is back at its regular stride, following the settlement of the loggers' strike which threatened to paralyze the whole trade and jeopardize contracts negotiated with United Kingdom buyers. For the first five months of the year the log scale shows a total of nearly 650,000,000 feet, which represents an increase of 50 per cent over the corresponding period of 1933. Japan and China have been buyers in fair volume, but the United Kingdom continues as the chief overseas customer for British Columbia lumber.

Mersey Paper Co.'s Earnings

The annual statement of the Mersey Paper Company, of Liverpool, N. S., shows a gain in earnings and an improvement in capital during 1933.

Operations were carried on at capacity last year and despite the drop in gross income per ton of newsprint produced, due to the adverse exchange situation, the company was able to show gross operating profits at $881,025 compared with $799,963 in the previous year. After taking care of interest charges, the balance of income was applied to depreciation. This follows the same course as was adopted in 1932. No dividends were paid on the capital stock during the year, arrears on the $5,000,000 of 6½ per cent preferred stock being cumulative from July 1, 1930.

Argentine Paper Market Improves

The Argentine market for foreign papers has been notably favorable during recent months, according to a report to the Commerce Department from Assistant Trade Commissioner Jule B. Smith, Buenos Aires.

Newspaper and magazine advertising, it is pointed out, although seasonally lower, is still large enough to keep newsprint imports steady. Placard and billboard advertising is also increasing. Exports of canned meats during the first four months of the current year were 13 per cent above those for the corresponding period of 1933, which increased the consumption of label paper. The increased packing of fruits, fish, and vegetables in Argentina should also increase the demand for this type of paper.

For the first four months of 1934, imports of all classes of paper into Argentina were only 5 per cent less than last year. Canada is furnishing around two-thirds of the newsprint which is the largest item in Argentina's import trade. European countries are supplying the remainder and large quantities of other papers and boards. Of the imports during the first four months of the current year estimated at 37,750 tons, Canada is credited with 24,052 tons; the United States, 5,493 tons; Sweden, 4,392 tons, and Germany, 3,337 tons.

Violated the Code Requirements

Code requirements covering hours and wages, the quoting of prices less than filed prices and the failure to report statistics are recognized as code violations. Following a complaint and satisfactory adjustment thereof further violations will be turned over to the District Attorney by the Compliance Board.

Violations of the Paper and Pulp Industry Code cannot be made with impunity in view of the findings in the case of the Brown County Paper Mills of West DePere, Wis.

A complaint of violation of the Paper and Pulp Industry Code was filed with the Compliance Division of the NRA at Washington against this mill. It was sponsored by D. H. Greene representing the Code Authority of the Bogus Wrapping and Packing Division—a subordinate division of the Paper and Pulp Industry Code.

The complaint originally filed at Washington was forwarded by A. J. Altmeyer, chief of the Compliance Division to the State of Wisconsin Compliance Board located in the Capitol Building, at Madison. A. Matt Werner, State director of the board, sent an investigator to West DePere to ascertain the facts.

The Complaint

The bill of complaint cited three major violations, namely:

1. Failure to observe the hour and wage requirements of the Code:
2. The quoting of prices at figures less than the filed price.
3. Failure to report statistics and other information specified by the Code Authority.

The investigator found that the employes of the mill had been underpaid in the aggregate sum of $2,958.91 and that the requirements under the labor provisions of the Code were not being observed. The price list filed earlier in the year had been ignored in subsequent transactions to the detriment of fair competition with other members of the industry.

The demands for statistical information, made by David R. Whiting, Secretary of the Code Authority under the jurisdiction of which the products of this mill fall, had been disregarded and refusal made to submit this information.

M. Miller, secretary and treasurer of the Brown County Paper Mills, was ordered to furnish a bond in a sum sufficient to satisfy the amount due in wages.

Mill Forced to Close

Failure to furnish the bond within the specified time caused another visit to West DePere under the direction of the Compliance Board and the mill was closed. Mr. Miller stated that he had no funds which could be used for furnishing a bond and was unable to secure a bond from a responsible bonding company.

Following this, arrangements were made for the company to execute a mortgage on its plant as security for payment of the wages due. The necessary procedure, including the authorization by the directors, the drawing of the form of mortgage and the appointment of a bank as trustee, necessitated some little delay. In the meantime the mill was held closed by order of the Compliance Board.

Price Lists and Statistics

The violation of the filed price list and failure to submit information called for were the subject of a hearing at Madison, held by the Compliance Board and attended by Mr. Miller and his counsel representing the DePere Mill; and Mr. Greene and Mr. Whiting representing the complainants and the Code Authority.

In the course of the hearing, Mr. Miller admitted on behalf of the Brown County Paper Mills that there had been violations of the Code in respect to prices and refusal to supply information. It was made clear to Mr. Miller that he would have to adhere to all of the provisions of the Code and he stated for the record that he would in the future comply with the requirements.

Compliance

The representatives of the Code Authority emphasized the fact that they were concerned solely with full compliance under the Code. Fair competition cannot be maintained when a group of mills, operating in conformity with the labor and other provisions of a Code, is confronted with a plant which disregards all hour and wage requirements and sales policies.

At the close of the hearing it was announced that the trustee had in hand the funds for adjustment of wages due. With this wage adjustment, the filing of price lists and supplying of information, the mill was permitted to resume operations.

The Compliance Board, closing the case at this point, has advised the Code Authority that if there are future violations of the Code by the Brown County Paper Mills, all of the papers and evidence will be turned over to the District Attorney.

The Chemical Formulary

The Chemical Formulary, just issued by the Chemical Formulary Company, 950 Third avenue, Brooklyn, N. Y., is a condensed collection of valuable, timely, practical formulae for making thousands of products in all fields of industry. The foreword says:

"Many publications, laboratories, manufacturing companies and individuals have been drawn upon to obtain the latest and best information. It is felt that the formulae given in this volume will save chemists and allied workers much time and effort.

"Manufacturers and sellers of chemicals will find in these formulae new uses for their products. Non-chemical executives, professional men and others, who may be interested, will gain from this volume a 'speaking acquaintance' with products which they may be using, trying, or with which they are in contact."

A special chapter is devoted to pulp and paper which includes many of the approved formulae.

Chairman A. D. Leslie Now at Paper Trade Code Authority Office

Arnett W. Leslie, vice-president and general manager of the John Leslie Paper Company, Minneapolis, Minn., chairman of the code authority of the Paper Distributing Trade since February last, has been prevailed upon by the Code Authority to give his full time and attention for the next several weeks to Code Authority business in New York, with full power to develop the present organization, its personnel, and space and equipment facilities to a point capable of handling the rapidly increasing volume of work. Mr. Leslie will return to his regular position with the John Leslie Paper Company, Minneapolis, Minn., as soon as his task has been accomplished.

Obituary

B. F. Wilson

B. F. Wilson, of Wausau, Wis., treasurer and one of the organizers of the prominently known Marathon Paper Mills Company, of Rothschild, Wis., died June 22, several hours after a sudden heart attack. He was 74 years old.

Mr. Wilson came to Wausau in 1901, after carrying on extensive lumbering operations in northern Wisconsin. He organized the Wilson Mercantile Company, operating wholesale grocery warehouses in Wausau and Rhinelander, Wis., and was actively engaged as its president. When the Marathon Paper Mills Company was about to be established, he became financially interested and was elected treasurer, an office he has held ever since.

He also was one of the organizers and the secretary of the Employers Mutual Liability Insurance Company, of Wausau, which carried the employees' compensation insurance for the majority of the paper mills. He was also secretary and treasurer of the *Wausau Record-Herald* since its organization in 1907; and a director of the Crows Nest Pass Lumber Company, Wardner, B. C.; the British Columbia Spruce Mills, of Lumberton, B. C.; and the Ontonagon Fibre Company, Ontonagon, Mich.

Mr. Wilson was one of the organizers of the Great Northern Life Insurance Company, now of Chicago, and served as its president while its offices were at Wausau.

One son, Perry M. Wilson, is secretary and general manager of the Marathon Paper Mills Company.

Burial took place at Wausau, with the Masonic Lodge in charge.

Chas. F. Anderson

Charles F. Anderson, president and general manager of the Anderson Paper and Twine Company, with plants in Altoona and Johnstown, Pa., and otherwise prominently identified with business and civic enterprises, died suddenly June 21 at his residence, 611 Allegheny street, Hollidaysburg. He was 52 years old.

Mr. Anderson is survived by his widow; three daughters, Mrs. Phillip Hollar, of Strafford, Pa.; Mrs. George C. Wilson, Jr., of Tyrone, Pa.; and Mrs. Robert McDonnell of New York. Two sisters, Mrs. Annie C. Wolf and Miss Magdalen Anderson, both of Altoona, also survive him, along with four grandchildren.

W. J. B. Wilson

[FROM OUR REGULAR CORRESPONDENT]

VANCOUVER, B. C., July 2, 1934—W. J. Blake Wilson, a director of the British Columbia Pulp and Paper Company, died recently in the Vancouver General Hospital, following an operation from which he failed to rally. He was one of Canada's outstanding magnates, being prominently connected with many of the largest industrial concerns in the Dominion. He was president of Burns & Co., Ltd., a director of the Canadian Pacific Railway, British Columbia Electric Railway, Canadian General Securities, and had served as director on banks, collieries, oil corporations, railways, and other corporations.

Robert G. Gillespie

Robert G. Gillespie, vice president and treasurer of the Case Manufacturing Company, Unionville, Conn., died July 2, at his residence on Lovely street after several months illness.

Mr. Gillespie was 64 years old, was born in Unionville and had lived there all his life.

As a boy he started to work in the old Platner & Porter Paper Mill. About twenty-five years ago he became associated with the late Raymond Case as salesman, later becoming sales manager.

Several years ago he purchased half interest in the company from the Raymond S. Case estate and since then has been its vice president and treasurer as well as sales manager.

Mr. Gillespie had many friends in the trade in the East, where he was well and favorably known.

He leaves his widow, two sons, several sisters, and other relatives in Unionville.

David J. Kerr

David J. Kerr, superintendent of the Champion Fibre Company's paper plant at Canton, N. C., and well known in Southern engineering circles, died in Raleigh on June 21.

Mr. Kerr had been with the Champion Fibre Company for 27 years. He had served as Mayor of Canton for five terms, being first elected in 1923, and serving through last year. He was a well known sportsman, being a member of the Canton Skeet Club.

Mr. Kerr was reared in Atlanta, Ga., where he was graduated from West End Academy. He was in charge of the construction of Atlanta's street railway system in 1890 and later superintendent of the Rome Railway and Light Company, Rome, Ga. He served two terms as president of the Greenville section of the American Society of Mechanical Engineers.

He was a past president of the Canton Civitan Club.

Samuel Freedman

Samuel Freedman, founder of Freedman & Sons, wholesale paper company, which he established when he came to Washington from Scotland thirty years ago, died there on June 26. He was seventy years old. Since 1924 he had been treasurer of the Zionist movement in Washington and was honorary president of the Washington Talmud Torah. Four sons survive.

To Expand Imperial Plant

[FROM OUR REGULAR CORRESPONDENT]

HUDSON FALLS, N. Y., July 9, 1934.—Contract for a new addition to the plant of the Imperial Paper and Color Corporation has been awarded and construction will be started immediately. The new structure will be 50 x 60 feet in dimensions and will provide larger office facilities which became necessary because of the increased business resulting from the development of the new patented process for washable wall papers and extensive national advertising. The structure is to be built on the east end of the large building now occupied wholly or in part by the shipping and warehouse department. The addition is being built in such a manner as to provide for future expansion if necessary and the contract calls for completion late in the summer.

H. S. Lewis Made a Director

BEAVER FALLS, N. Y., July 6, 1934.—Harry S. Lewis, prominent paper manufacturer of this village, was elected a director of the Niagara Hudson Power Company at the annual meeting of stockholders held recently. He will continue, however, to direct the affairs of the J. P. Lewis Company which he was largely instrumental in forming. Floyd L. Carlisle, head of the St. Regis Paper Company, is chairman of the board of directors of the power concern.

Indianapolis Demand Seasonal

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., July 9, 1934.—The vacation season during the last week appeared to make its first real inroads in paper demand in this territory. Not only were a lot of persons at various resorts, but many of the industrials which use paper have cut their production through an inventory period which will last perhaps until the middle of the month. All production has not been stopped, but it has been slowed materially for this purpose. General conditions, however, are not bad. June was a better month than a year ago and the seasonal slump at this period is not expected to be as drastic as it was last year. It is confidently expected that after mid-summer demand will liven up materially. All told the trade has little complaint concerning the volume done the first six months of this year. It was so much better than the same period a year ago that most seem to be satisfied.

Summer specialties are the exception to the general rule. Torrid weather during last week caused a sudden spurt in all summer lines and caught many of the dealers rather short. There apparently is sufficient quantities in wholesale hands to supply immediate needs, but it is likely there will be some buying all around unless it turns much cooler than it has been. All June weather records were broken last Thursday. Naturally, due to hot weather, there has been a big increase in demand for paper containers from the ice cream industry. Breweries are ready buyers and have been for a month, both for paper board for partitions in cases and for regular paper containers to hold an assorted number of bottles. The remainder of the container trade seems to be marking time as also is the kraft industry.

Demand for all building paper is improving. The spring building season was slow getting started and it was not what it should have been, but since the first of last month there has been a consistent demand for most lines of building papers. Most of the building is repair and remodeling, there being little new construction.

Paper stock men report little mill demand and are objecting to the prices offered both for rags and paper stock. There is some demand for better grade rags, but not what it should be.

De-Inking Plant for Jersey City

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., July 9, 1934.—Through the James Flett organization, the American Pulp Corporations, Jersey City, N. J., have contracted with the Snyder McLaren Process, Inc., to use the Snyder McLaren process of removing carbon ink from waste paper and convert the waste paper into pulp. The American Pulp Corporation are installing the necessary machinery to have a capacity of approximately 60 tons of de-inked waste paper per day.

It is understood that one of the conditions of the granting of a license by the Snyder McLaren Process, Inc., to the American Pulp Corporation is an agreement that all waste paper to be de-inked by the American Pulp Corporation will be furnished by the James Flett organization.

The additional mill contemplating the de-inking of waste paper under the Snyder McLaren process close to New York will also be required under the terms of the license to secure their supplies of raw material from the Flett organization. This would seem to give customers of the Flett organization outlets for waste paper not available to others engaged in the waste paper industry.

The granting of a license for de-inking waste paper to the American Pulp Corporation and others contemplating granting of licenses is a program being developed by the Flett organization to broaden and enlarge the markets available for the use of waste paper.

The process of de-inking waste paper developed under the direction of Francis H. Snyder and Stanley McLaren is thoroughly covered by United States basic patents owned by the Snyder McLaren Process, Inc., New York City, and the granting of licenses to use for the patents for de-inking waste paper rests solely in the James Flett organization.

The patents owned by the Snyder McLaren process for de-inking of waste paper will de-ink equally well groundwood papers printed with carbon ink or free of groundwood papers printed with carbin ink. This makes available de-inked waste paper as a substitute for large tonnages of new pulp, either groundwood or free of groundwood, depending on the class of waste paper that is de-inked.

Ft. Miller Pulp & Paper Co. Burned

[FROM OUR REGULAR CORRESPONDENT]

FORT MILLER, N. Y., July 9, 1934—Fire broke out this week at the Fort Miller Pulp and Paper Company and completely destroyed the main boiler and engine rooms despite a stubborn fight by several fire departments from neighboring villages. The blaze was the third disastrous fire within the past few years and the loss was estimated at about $50,000. Flames shooting from the roof of the boiler room were discovered by employees but by the time firemen arrived the fire had gained considerable headway. Efforts to subdue the fire were hampered by fear that the massive boilers would explode and injure some of the employees. The falling of a steel girder on the boiler pipes is believed to have averted the more serious blowing up of the steam boilers. Following this mishap efforts were directed towards keeping the flames from spreading to the main plant nearby, built recently after a disastrous fire. The belief was expressed that the fire originated from friction of shavings which are blown from the main plant through a pipe into a bin in the boiler room where they are used for fuel. A good water supply is said to have been the principal means of preventing destruction of the main mill and adjoining storehouse. About six years ago the main plant was destroyed by fire but was rebuilt almost immediately. Soon after this misfortune the warehouse and tool plant were burned down but these were also reconstructed. The opinion was expressed that the destroyed boiler house may not be rebuilt in the near future. The mill is now operating at capacity employing about 35 workers and activities are not expected to be hampered.

"Fine Paper for Sale"

The Whitaker Press, Inc., Indianapolis, Ind., has just issued an attractive and interesting brochure entitled "Fine Paper for Sale," by Spencer W. Curtiss. The text includes the following articles: Exit the Chiseler;" "Our Present System of Distribution;" "Three Paper Salesmen;" "Selling Fine Paper Under the Code Requires Improved Selling Methods and Better Equipped Salesmen;" "An Outsider Who Knows the Inside Facts." In the foreword, the author says "The purpose of this book has been to put together under one cover approved methods of merchandising and selling Fine Paper. It is offered with the wish to be of practical help to the entire industry."

The covers are bound with a spiral wire which allows the book to be opened perfectly flat. The brochure is certain to be favorably received by the members of the industry for whom it is intended.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Erie, Pa.—The Hammermill Paper Company, Erie, has preliminary plans under consideration for new paper mill on the Matane River, Matane, Que., including power dam on river for plant service. No estimate of cost has been announced. It is said that new mill will be equipped for large capacity.

Adrian, Mich.—The Simplex Paper Corporation, Adrian, is considering early rebuilding of unit at mill at Palmyra, near Adrian, used for storage and distributing service, recently damaged by fire. Loss reported at close to $20,000, including equipment.

Fredericksburg, Va.—Damage to local plant of the Sylvania Industrial Corporation, 122 East 42nd street, New York, manufacturer of transparent cellulose paper products, caused by fire recently, previously referred to in these columns, totaled close to $200,000, including buildings and equipment. It is proposed to proceed with rebuilding at early date. Dr. Frank H. Reichel is vice-president.

New York, N. Y.—The Federal Carton Corporation, recently organized with capital of 200 shares of stock, no par value, plans operation of local plant for manufacture of paper boxes, cartons and allied containers. Incorporators of new company include Milton H. Klein, 1428 Carroll street, and Theodore B. Wolf, 367 Lincoln place, both Brooklyn.

Chicago, Ill.—The Chicago Label and Box Company, 312 North May street, manufacturer of paper boxes and containers, and other paper specialties, has filed notice of change of capital from $250,000 to 7500 shares of stock, no par value.

Elkton, Md.—The Industrial Rayon Corporation, West 98th street and Walford avenue, Cleveland, Ohio, manufacturer of cellulose rayon products, is inspecting sites at Elkton and vicinity, with view to early purchase of land for new mill, supplementing present plants at Cleveland, and Covington, Va. Proposed plant will consist of several multi-story units, with power house, water treatment plant and other mechanical departments, and is reported to cost over $1,000,000, with machinery. It will be equipped to give employment to about 1500 persons.

Fall River, Mass.—The Fall River Paper and Supply Company, 110 14th street, is awarding miscellaneous subcontracts for completion of new two-story storage and distributing plant, 85 x 100 feet, to replace a unit destroyed by fire a number of weeks ago, previously referred to in these columns. An award for electrical work has been made to the Baron Company, 252 Second street, city. J. R. Thornley, 90 Brayton avenue, city, is general contractor. Structure will cost close to $30,000, with equipment. S. T. Dubitsky, 38 Third street, Fall River, is architect.

Millburn, N. J.—The former Diamond Paper Mill, Brookside drive near Glen avenue, idle for a number of years, has been taken over by the city and will be remodeled and extended for a municipal building.

Waltham, Mass.—The Waltham Bag and Paper Company, Cooper lane, plans repairs and improvements in two-story storage and distributing plant, recently damaged by fire. An official estimate of loss has not been announced.

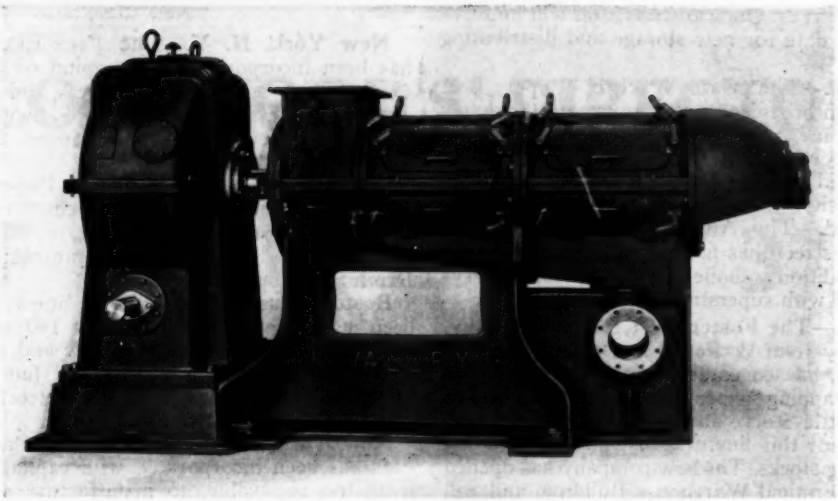
Norwood, Ohio—The United States Playing Card Company, Park avenue, has awarded general contract to the Fisher-DeVore Construction Company, Idlewild and Dana avenues, Cincinnati, Ohio, for extensions and improvements in power house at local card stock and paper converting plant. Work will cost about $24,000, with equipment. Harry Hake, 2400 Gilbert avenue, Cincinnati, is architect. It is proposed to place work under way at once.

Marrero, La.—The Celotex Company, manufacturer of insulating board, wallboard and kindred products, has resumed operations in different departments of local mill at Marrero, near New Orleans, following curtailment for about a month, due to labor difficulties. Close to 700 workers have returned to the plant without securing demands. It has been agreed that any future disputes will be handled by arbitration. Headquarters of company are at 919 North Michigan avenue, Chicago, Ill.

Elkhart, Ind.—Officials of the American Coating Mills, Inc., following recent purchase of local mill and business of the Illinois Carton & Label Company, Foundry street, previously noted in these columns, have organized a new company as an affiliated interest, to take over and operate the plant, under name of the Illinois Carton and Label Corporation, capitalized at 10,000 shares of stock, no par value. The new organization is headed by Charles C. Colbert, president, treasurer and general manager of the purchasing company, who will be president of the new company; George E. Preston, vice-president and superintendent, and Charles W. Dunnington, secretary, of the purchasing interest. The new company will continue the manufacture of paper boxes, cartons and other containers, as well as a line of paper specialties, securing supply of box board, etc., from the mill of the parent company. The Illinois Carton company was previously owned by the Richardson Taylor Globe Corporation, Cincinnati, and the Gardner-Richardson Company, Middletown, Ohio. The plant is giving employment at present time to about 180 operatives, and will be continued on this basis.

Millinocket, Me.—The Great Northern Paper Company has plans under way for construction of new hydroelectric power plant for service at local mill. It is proposed to begin work on project at early date. The H. J. Deutschbien Company, Inc., 350 Fifth avenue, New York, N. Y., is consulting engineer.

Chicago, Ill.—The Pioneer Paper Stock Company, 448 West Ohio street, paper goods, has leased a three-



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2. **Dewatering Pulp Mill Screening for fuel.**
3. **Pulp Blowing Systems.**
4. **High Density Bleaching.**
5. **Beater Furnishing.**
6. **High Consistency Fibre Processes.**

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Automatic Felt Guide • Hypoid Gear Drive • Voith Kneader

story building at 349 West Ontario street, and will improve and occupy at early date for new storage and distributing plant.

Brooklyn, N. Y.—The Gans-Wachtel Paper Box Corporation has been organized with capital of 100 shares of stock, no par value, to operate a local plant for the manufacture of paper boxes and containers. New company will be identified with the Gans Paper Box Company, 36 Stockton street, city.

Los Angeles, Cal.—The Angelus Paper Box Company, 621 East 61st street, has filed plans for construction of new one-story addition to boiler plant for factory service, and will proceed with superstructure at once.

Little Rock, Ark.—The Foster-Rust Paper Company, recently organized by John H. Foster and Albert A. Rust, both of Little Rock, has concluded arrangements for acquisition of the wrapping paper division of the Roach Paper Company, Little Rock, and will carry out general expansion program for this line of paper goods, including kraft paper wrapping stocks. The new company has opened offices in the local Terminal Warehouse Building, and will maintain storage and distributing department at same location.

Luke, Md.—In connection with expansion and improvement programs at mills at Luke, and at Covington, Va., recently referred to in these columns, the West Virginia Pulp and Paper Company, 230 Park avenue, New York, N. Y., will make extensive additions to boiler plants at both mills, with installation of new equipment to develop a capacity of about 300,000 pounds of steam per hour, including new coal-burning equipment, air preheaters, induced draft fans and accessory equipment. A considerable part of new equipment will be furnished by the Riley Stoker Corporation, Worcester, Mass. The work at the Covington mill is well under way and scheduled for completion early in August; the program at mill at Luke is expected to be ready for service in the fall. Company engineering department is in charge.

Newburgh, N. Y.—Hunt's Paper Mills, Inc., recently organized with capital of 1000 shares of stock, no par value, plans operation of a mill in this vicinity for manufacture of a line of paper products. The incorporators of the new company include Jacob Manne, 44 Butler place, Brooklyn, N. Y., and Myron M. Behrman, 350 West Fifty-seventh street, New York, N. Y.

Hoquiam, Wash.—The Grays Harbor Pulp and Paper Company has begun foundations for new addition to pulp mill at local plant, recently referred to in these columns, and will proceed with superstructure at early date, scheduling completion of program early in the fall. Work will include installation of new equipment to increase capacity of the mill from 150 tons to 200 tons of sulphite pulp per day. Entire program is reported to cost approximately $100,000, with machiner, list of which is being arranged. It is understood that corresponding increase will be carried out in other departments of mill. W. S. Lucey is manager.

Portland, Me.—The Brown Corporation, Portland, affiliated with the Brown Company, Berlin, N. H., has concluded arrangements with the Anglo-Newfoundland Development Company, Ltd., Bishop's Falls, N. F., for rights to cut timber for pulpwood service on its properties on the north shore of the St. Lawrence River. The latter company will defray a sum of $75,000 for this privilege and will begin work at early date. The Brown Corporation also has granted an option for similar timber-cutting on adjacent lands to the Anglo-Canadian Pulp and Paper Mills, Ltd., Quebec, Que., and it is expected that this will be exercised and operations started in near future.

New Companies

New York, N. Y.—The Pack-Rite Company, Inc., has been incorporated with capital of $10,000, to manufacture paper boxes and containers, and other paper goods. The incorporators include I. Sidney Worthman, 277 Broadway, New York; and Samuel Levitt, 1069 East Third street, Brooklyn, N. Y.

Chicago, Ill.—The Chippewa Paper Products, Inc., 522 West Erie street, has been chartered with capital of 200 shares of stock, no par value, to manufacture and deal in paper goods. The incorporators include Joseph S. Druth and Harry Pomeroy.

Boston, Mass.—The Fidelity Specialty Company has been incorporated with capital of 140 shares of stock, no par value, to deal in paper goods and affiliated products. A. Edward Shaw is president, and James A. Shaw, vice-president; Joseph Pollak, 12 West street, Boston, is treasurer and representative.

New York, N. Y.—The Banner Products Company, Inc., has been incorporated with capital of 100 shares of stock, no par value, to manufacture and deal in paper goods of various kinds. New company is represented by Barnard H. Legunn, 545 Fifth avenue, New York.

Detroit, Mich.—The Fibre Trading Association, 1921 East Ferry avenue, has been organized with nominal capital of $2500 by officials of the Levine Waste Paper Company, 1580 Dallas avenue, city, to deal in fiber products of various kinds.

Chicago, Ill.—The Clinton Paper Company, Inc., has been incorporated with capital of 100 shares of stock, no par value, to manufacture and deal in paper goods. Registered office is at 521 West Fourteenth street. The incorporators include Charles and Nathan Krueger.

Carthage, N. Y.—The Papermakers' Realty Corporation has been chartered by officials of the Carthage Paper Makers, Inc., with capital of $25,000, to own, lease and otherwise operate paper mill property. The incorporators include William J. Cassidy and Bert W. Thomas, president and secretary-treasurer, respectively, of the Carthage Paper Makers, Inc., with local mill.

New York, N. Y.—The Gem Corrugated Box Corporation has been incorporated with capital of 300 shares of stock, no par value, to manufacture and deal in corrugated boxes and containers. The incorporators are Philip Feinberg, Daniel J. Bellin and Louis Hecht, all of 507 West Thirty-third street, New York. It is understood that the new organization will be affiliated with the Gem Paper & Twine Company, last noted address.

New York, N. Y.—Manhattan Brands Company, Inc., has been organized with capital of 200 shares of stock, no par value, to manufacture and deal in paper goods of various kinds. Principal incorporator of new company is Louis S. Amreich, 2168 East Eighth street, Brooklyn, N. Y. Company representative is Barshay, Frankel & Rothstein, 2 Lafayette street, New York.

Chicago, Ill.—The Acme Fiber and Supply Company, Inc., 3325 West Roosevelt road, has been incorporated with capital of 100 shares of stock, no par value, to manufacture and deal in fiber products. The incorporators are Charles Goldman and Ralph B. Horwich.

High Point, N. C.—The High Point Paper Products Corporation has been chartered with capital of $50,000, to manufacture and deal in paper goods of various kinds. The incorporators are Paul F. Williams and W. M. Nash, both of High Point.

Los Angeles, Cal.—The Continental Paper and Bag Corporation, New York, N. Y., a Delaware corporation, has filed notice of organization to operate in California with capital of $3,000,000.

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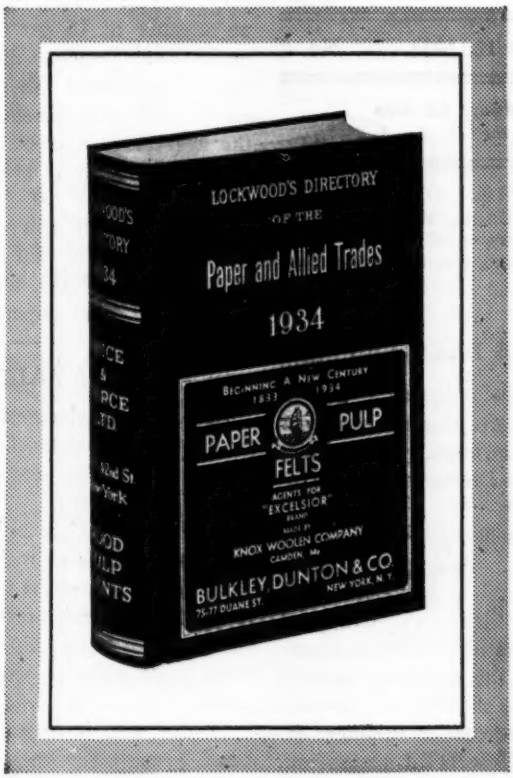

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COMING EVENTS

Technical Association of the Pulp and Paper Industry, Fall meeting. Headquarters Multnomah Hotel, Portland, Ore., September 10-13, 1934.

Paper and Pulp Section, National Safety Council, annual convention, Hotel Statler, Cleveland, Ohio, October 1-5, 1934.

FOREIGN PAPER TRADE DECLINES

Exports of paper and paper products from the United States during the month of April were slightly less than those of the preceding month both in quantity and value, according to the Lumber and Paper Divisions of the Department of Commerce.

Nearly all products shared in this decline, which is not unusual at this season of the year. Among the major items, the heaviest decreases occurred in boxboards and other paper boards (exclusive of bristols), wrapping papers, and writing papers. Exports of over-issue newspapers were about on a level with the preceding month. Exports of wall boards dropped off slightly but this decrease was more than offset by an increase in shipment of fiber insulating board and lath. Exports of newsprint, which have been improving since the first of the year, reached a total of 8,015,289 pounds during April, exceeding the March shipments by 55 per cent. Among the higher-priced papers, greaseproof and water-proof wrappings increased by 38 per cent, surface-coated papers by 4 per cent, bristols by 30 per cent and vulcanized fiber by 10 per cent. In the remaining items, decreases ranged from 3 per cent for uncoated book papers to 67 per cent for tissues and crepes.

The total exports, valued at $1,574,681 were 4 per cent under total registered for March. In addition to paper and boards, $575,272 worth of paper base stocks were exported during April as against $448,902 during March. The bulk of these shipments consisted of sulphite pulp, which amounted to 9,034 tons, as against 2,542 tons of rags and other waste stock and 200 tons of other classes of wood pulp. The increase in the April shipments was due entirely to exports of sulphite pulp, since rags and other waste were less by 36 per cent and other classes of pulp by 45 per cent.

Imports of paper base stocks into the United States during April were generally lower than in the preceding month. Imports of sulphite pulps declined about 25 per cent and imports of unbleached sulphate (kraft) pulp 40 per cent. Exceptions were imports of rags and mechanical ground wood, which increased 50 and 55 per cent respectively.

In contrast to imports of paper base stocks, imports of paper and paper products during April were 14 per cent higher (in value) than during March. This rise, however, was almost entirely due to the increase in newsprint receipts, which totaled 196,490 tons. This figure represents an advance of 16 per cent over the March receipts and exceeds any previous month's receipts during the current year. Imports of other printing papers, kraft wrapping paper, and miscellaneous boards were also greater, but the aggregate value of classes other than newsprint declined in value by 11 per cent. Pulpboards in rolls, which is a fairly heavy item, declined by 36 per cent, writing papers by 31 per cent; cigarette papers continued nearly at the March level. Of the total paper and paper products valued at $7,567,345, newsprint receipts represented $6,729,921 and other papers and boards $837,424.

TAPPI FALL MEETING PLANS

Ray Smythe, chairman of the Publicity Committee of the 1934 International Convention of the Technical Association of the Pulp and Paper Industry has just released the following item:

"The General Convention Committee is rapidly completing arrangements to make attendance to the TAPPI International Convention at Portland on September 10 and 13 worthwhile and interesting. Everything possible is being done to make this an outstanding convention, both from a technical as well as from a recreational standpoint.

"Those who have not already done so should by all means prepare for one of the most delightful trips imaginable. The Transportation Committee expects to have two full special trains out of Chicago and this trip alone will be worth many times its cost. There will not be a dull moment. There will be a day's stop at the world renowned Yellowstone Park, a dinner dance at Spokane the night of September 8, arriving in Portland on Sunday morning, September 9. The Reception Committee is arranging some unique features which will give a lasting impression of the great and glorious West. Those coming on TAPPI special trains will be given numbered cards which will be drawn at Spokane. The lucky number will get a 10-day Alaska Cruise—all expenses paid.

"Because of the heavy tourist travel in this section of the world, it is not too early to make reservations. We

urge you to do so now. The Arrangements, Transportation and Publicity Committees will be very glad to make any reservations desired. Non-members of TAPPI will be welcome."

Following are the officers of the Pacific Section of TAPPI and chairmen in charge of the meeting details:

Lawrence Killam, chairman, British Columbia Pulp and Paper Company, Port Alice, B. C.; Myron W. Black, vice-chairman, Inland Empire Paper Company, Millwood, Wash.; Albert S. Quinn, secretary-treasurer, 709 Textile Tower, Seattle, Wash. CHAIRMEN OF COMMITTEES: H. Robert Heuer, general chairman, Weyerhaeuser Timber Company, Longview, Wash; Walter S. Hodges, Administration, Portland, Ore.; John E. Hassler, Arrangements, Portland; H. A. Des Marias, Reception, Portland; A. G. Natwick, Mill Visits, Crown Willamette Paper Company, Camas, Wash.; Raymond S. Hatch, Program, Weyerhaeuser Timber Company; Fred Alsop, Entertainment, Portland, Ore.; S. C. Rasmussen, Golf and Recreation, Portland; G. S. Brazeau, Weyerhaeuser Timber Company, Chicago, Ill.; C. H. Champion, R. T. Vanderbilt Company, New York, and H. J. Skinner, Skinner & Sherman, Inc., Boston, Mass., Ray Smythe, Portland, Ore., Miss Helen U. Kiely, American Writing Paper Company, Holyoke, Mass., Allen Abrams, Marathon Paper Mills Company, Rothschild, Wis., Railroad and Transportation; Ray Smythe, Publicity, Portland, Ore.; Mrs. A. G. Natwick, Ladies' Activities.

Paper and Pulp Safety Program Arranged

General Chairman, H. G. Gilson, Oxford Paper Company, Rumford, Maine, announces all arrangements completed for the coming Safety Congress. This annual meeting of safety men is to be held in Cleveland, Ohio, this year, October 1 to 5, and a well balanced Program for the Paper and Pulp Section has been finally prepared.

Some of the most vital matters for managements and safety are scheduled, and men thoroughly acquainted with the managerial and safety aspects of business have been invited to present the facts. Interest in accident prevention work has never before reached the peak that it is at right now in the paper and pulp industry, and this sectional group of the National Safety Council are endeavoring to build up an even greater degree of advance for this economic subject.

Formal announcement of the Paper and Pulp Congress Program is to be made soon by the National Safety Council, and Chairman Gilson is urging early Hotel reservations at the Statler, Cleveland, at which hotel all paper and pulp meetings will be held.

R. I. LaMarche Appointed Sales Manager of International Paper Products Corporation

NEW YORK, N. Y., July 6, 1934.—Roy I. LaMarche has been appointed sales manager of International Paper Products Corporation of 220 East 42d Street. Mr. LaMarche was for a number of years assistant manager of the purchasing department of International Paper Company.

The chief products sold by International Paper Products Corporation are multi-wall valve bags, both sewn and pasted, for cement, gypsum, and other rock products.

Bids and Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., July 6, 1934—The Government Printing Office has announced the following paper awards, bids for which were received on June 15:

1,000 pounds Gummed No. 1 Kraft paper in 24-inch rolls, W. L. Jones, Inc., New York, at .0835 cents per pound; 38,870 pounds high finish sulphite manila tag board, Perkins-Goodwin Company, New York, at .04655 cents per pound; 21,000 sheets yellow gummed paper, Virginia Paper Company, at $9.00 per thousand sheets; 127,000 sheets white card board, R. P. Andrews Paper Company, Washington, at $20.43 per thousand sheets.

The following awards were made for paper, bids for which were received on June 18:

10,000 pounds (10,000 sheets) straw board, J. W. Butler Paper Company, Chicago, at .028 cents per pound; 20,000 pounds (200,000 sheets) 25 per cent rag mimeograph paper, Aetna Paper Company, Dayton, Ohio, at .1081 cents per pound.

Mathers-Lamm Paper Company was awarded the contract for 23,000 pound binders board at .04725 cents per pound, bids for which were received on June 25.

The Government Printing Office has received bids for the following:

3,000 pounds gummed kraft paper, R. P. Andrews Paper Company, .105 cents per pound; Whitaker Paper Company, .09 cents; Barton, Duer & Kock Paper Company, .1075 cents; Cauthorne Paper Company, Inc., .0858 cents; Reese & Reese, Inc., .0873 cents; Mathers-Lamm Paper Company, .08999 cents; Walker-Goulard Plehn Company, Inc., .0824 cents; and the United Supply Company, .0876 cents, less 2 per cent.

2,000 pounds of white bond paper, Perkins-Goodwin Company; Whitaker Paper Company; R. P. Andrews Paper Company; Whiting Paper Company, and Barton, Duer & Koch Paper Company, all at .1406 cents per pound.

252,000 pounds of mimeograph paper, Aetna Paper Company; Whitaker Paper Company; Barton, Duer & Koch Paper Company, and R. P. Andrews Paper Company, all at .1081 cents per pound.

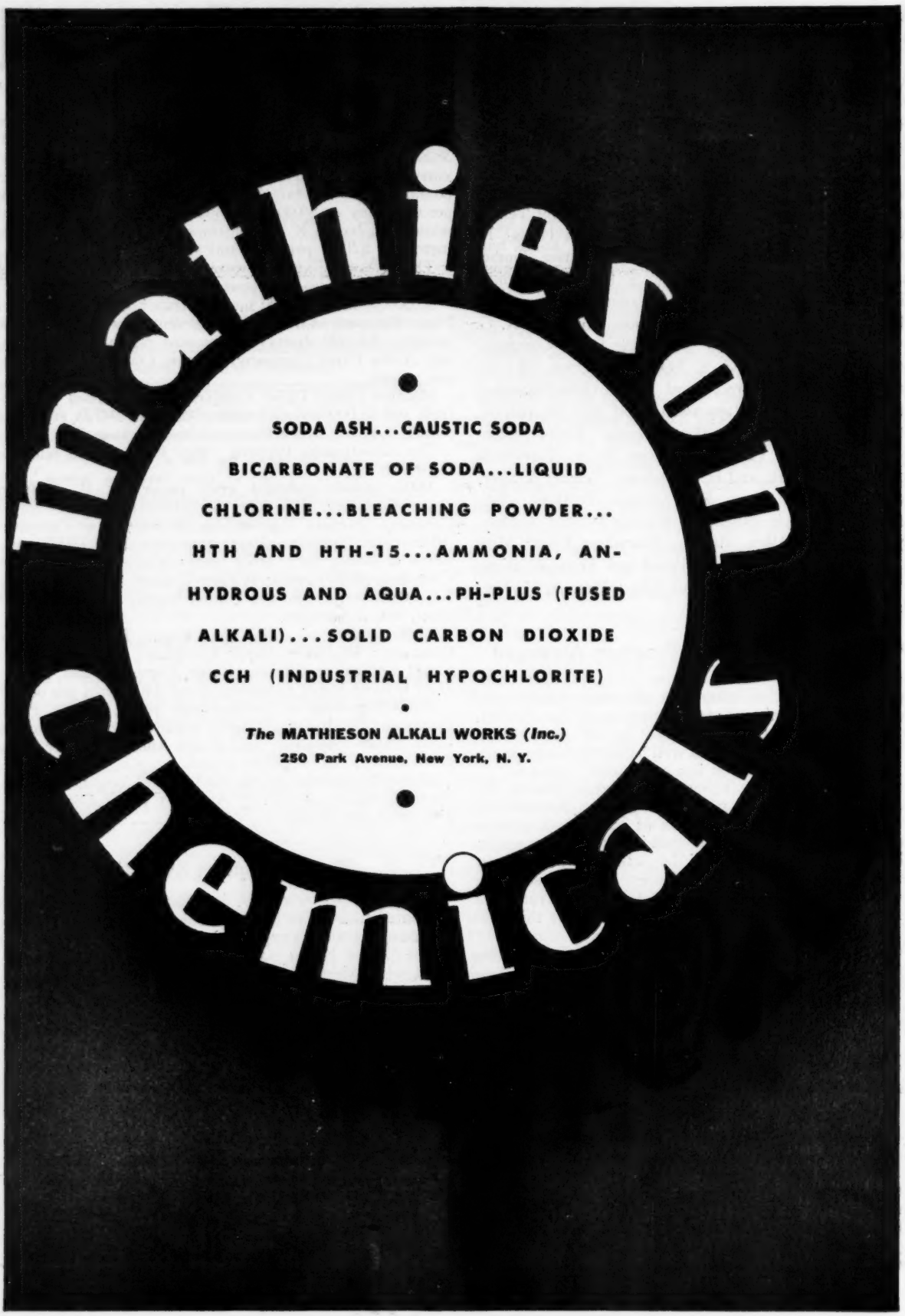
2,000,000 pounds, postal card bristol board, Whitaker Paper Company and R. P. Andrews Paper Company, at .039 cents per pound.

May Newsprint Statistics

Production of newsprint in Canada during May 1934 amounted to 242,539 tons and shipments to 236,969 tons, according to the Newsprint Service Bureau. Production in the United States was 89,726 tons and shipments 90,951 tons, making a total United States and Canadian newsprint production of 332,265 tons and shipments of 327,920 tons. During May 28,148 tons of newsprint were made in Newfoundland and 1,666 tons in Mexico, so that the total North American production for the month amounted to 362,079 tons.

The Canadian mills produced 314,049 tons more in the first five months of 1934 than in the first five months of 1933, which was an increase of 44 per cent. The output in the United States was 38,638 tons or 10 per cent more than for the first five months of 1933, in Newfoundland 23,895 tons or 23 per cent more, and in Mexico 742 tons more, making a net increase of 377,324 tons.

Stocks of newsprint paper at Canadian mills are figured at 42,459 tons at the end of May and at United States mills 20,337 tons, making a combined total of 62,796 tons compared with 58,451 tons on April 30, 1934.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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Proper Cooperation and Paper Mill Supervision*

By E. C. Gildenzopf[1]

Be fair, an injunction that every superintendent should daily strive to practice, is the caption of this short message.

A superintendent cannot exercise tolerance or those other oft repeated virtues unless he endeavors to be fair; fair to his fellowmen, be they his employee, his employer, his customer, or his neighbor.

Being fair in business pursuits is more or less obligatory by law, and one should not merit the praise for this to as great a degree as being fair in his opinions, utterances and actions toward his fellowman, which attitude, not enforced by civil law is purely a voluntary matter, reflecting a generosity of spirit, a magnanimous nature.

It would indeed be most gratifying to me if absence of necessity obviated in this message any reference to one's being fair with respect to the great Institution of Paper Making. Misunderstanding, dissatisfaction, and perhaps labor troubles may in a large measure be avoided if every superintendent would lose no time in making these facts clear to his men.

Let us consider the following two examples and impress them thoroughly in our employees' minds: The man who works fitfully, spends lavishly, takes no interest in anything other than what appeals to his appetites, constantly seeks pleasure, growls and grumbles over what little efforts he is required to make to furnish himself a living, is nothing more or less than a drifter, aimlessly wandering, and not getting anywhere, and will find himself, when age creeps upon him (and these should be the halcyon days of a well spent life), discouraged, dissatisfied, discontented and a failure.

But, the man who makes a job of his position, works for the very love of it, saves, denies himself useless extravagances, constantly seeks self-improvement, is honest, industrious, thrifty and the happy possessor of a sunny optimism is getting somewhere; the lone star of success is guiding him; he goes forward with confidence to an exalted destination.

Every good superintendent should meet with all his departmental foremen at least once each week and explain to them that the requisites to one's success are labor, study, thrift, sacrifice; that he must labor while others play, study while others dance, save while others spend, sacrifice desires for ease of luxury, while others are rushing hither and thither in search of thrills and refuse to be turned aside by the attractions and distractions of gayety with which the present period is filled. If he repels the allurements confronting him in every direction, follows strictly the outlined path, stepping neither to the right nor the left, the goal of his aspiration will be attained.

Those who are willing to pay the price will succeed, and instruct their foremen in turn to spread this gospel to the men under their jurisdiction in the plant.

To attain proper co-operation, all departmental costs should be discussed and the foreman who makes the best showing should be commended, and the one whose cost is high for no good reasons should be constructively criticized and in turn the foreman should pass this information on to his men. This will teach the men that they are an important spoke in the wheel of industry.

The N.R.A. has increased the costs and only careful planning and real thrift will enable the superintendent to keep the costs at a minimum.

In other words, we should always know where we are going, and where we want to go.

"An elderly man, accompanied by a small boy recently started for a walk; with an air of uncertainty, if not confusion, the old gentleman turned to the child and said, 'Which way shall we go?' The little boy quickly replied, 'Where do you want to go'?"

This brief incident inconsequential as it was, offers a thought worthy of meditation.

The superintendent of today must be a diplomat. Thirty (30) years ago, diplomacy was not essential; in those days, he could command and run the mill with an iron hand. Today, he must be considerate; he should never ask a man to do more than he could do himself.

I remember when I first started to work in a paper mill, I was asked to perform the very important duty of raking screens. I was then a young boy, seventeen years of age. I did my best to keep the screens from running over, but one day it so happened that they ran over, and the superintendent got so angry with me that he lost his temper and deliberately threw me off the platform onto the floor about six feet below.

*Presented at the annual meeting of the American Pulp and Paper Mill Superintendents Association, Poland Spring, Maine, June 20-23, 1934.

[1] Superintendent, Schmidt & Ault Paper Company, York, Pa.

Process Engineers Issue Booklets

Process Engineers, Inc., 9 W. Prospect avenue, Mount Vernon, N. Y., have just issued two booklets entitled "Rubber Latex in Paper" and "White Water in Sizing." Copies of these booklets may be obtained gratis by writing the company for them.

Economic Considerations Govern Selection of Paper Mill Drives*

R. R. Baker[1]

Fundamentally all paper mills are designed to produce both a quality product and a reasonable profit. Frequently due to various causes mills meet only the first requirement and fail to meet the second, however, we will all agree that the really successful mill must meet both. Unquestionably the proper application of electric drives to the industry plays a very important part in the correct fundamental design and layout of the plant. In arriving at any well balanced design there are a number of factors which must be taken into consideration and properly evaluated. These factors include:

(1) Functional efficiency as it affects machine availability and quality production.
(2) Mechanical, electrical and thermal efficiency as they affect operating cost.
(3) Maintenance and operating costs as they are affected by the selection of a particular type of drive.
(4) First cost and fixed charges.

Functional Efficiency Important

Of these factors perhaps functional efficiency is the most difficult to arrive at and evaluate. Let us consider functional efficiency as the ratio of actual saleable output of a machine over a given period to the theoretical output of the machine should it remain in continuous production during the full operating period producing at all times a quality product. When considered in this manner functional efficiency becomes a measure of the productive availability of the machine. The value to the mill of an improvement in functional efficiency depends upon whether or not a curtailment in the operation affects the final plant output. If the curtailment occurs in a feeder section of the plant where there is an excess production capacity improved functional efficiency is of little value, however, if the feeder section does not have excess capacity or if the curtailment occurs in one of the finishing departments such as on the paper machine, then such improvement has a comparatively high value. Roughly speaking this value is equal to the product of the improvement in efficiency, the production rate, the period of time under consideration, and the difference between the selling price of the product and the cost of the raw materials.

These factors will vary for each particular mill, however, as an example let us consider an improvement in functional efficiency of 1 per cent on a paper machine producing 25,000 tons of paper per year, with $50.00 per ton representing the difference between the selling price and the cost of raw materials. The value of this improvement would then be:

$$.01 \times 25{,}000 \times 50 = \$12{,}500.00 \text{ per year}$$

This example which is by no means an exceptional case indicates the importance of what we have termed functional efficiency.

Improved Mechanical and Electrical Efficiency Saves Power

Mechanical and electrical efficiency are not so difficult to visualize or evaluate. Here an improvement in efficiency results in a direct power savings, the value of which depends upon the marginal cost of power and the extent of the power savings. The marginal cost of power will vary with each individual mill from a minimum of perhaps ½ cent per horsepower hour to a maximum of 1 cent per horsepower hour. As an example consider an improvement of 1 per cent in efficiency due to either an improved mechanical layout or motor performance on a 100 HP. drive operating in a plant running 6000 hours per year with a marginal power cost of ½ cent per horsepower hour. The value of this improved efficiency in such a case would be:

$$.01 = .005 \times 100 \times 6000 = \$30.00 \text{ per year.}$$

This of course represents the value of the improvement on a single 100 horsepower drive. Where larger capacities are involved the improvement will be proportionately greater.

Thermal Efficiency Can Often Be Improved

Improvements in thermal efficiency result from higher initial operating steam pressures and temperatures, improvement in the performance of prime movers, or a better utilization of the steam required for both power and process work. Most paper mills, as at present designed, are unable to get along without operating either condensing steam units or purchasing at least a part of their power requirements. This is perhaps due to the present limits of operating steam pressures in these plants and to the unbalance which results from an unavoidable fluctuation in both power and process steam demand.

Perhaps the ideal design of a self contained mill, from the viewpoint of minimum coal cost, would be one in which the plant steam pressure was raised to a point where the maximum power demand could be met over a period of minimum process steam demand, without operating any condensing steam units. With such a layout the maximum steam demand would then be met by "by-passing" the power generating units with steam direct from the boilers. In certain mills, where the demand for power is large compared with the demand for process steam such a design would carry us to extremely high steam pressures and temperatures, however, in many mills the required steam pressure and temperature would be well within the present commercial range of power plant operation.

As with both electrical and mechanical efficiency it is a comparatively simple matter to evaluate an improvement in thermal efficiency of a prime mover or to estimate the savings resulting from a better utilization of the steam. Either improvement results in less steam demand from the boiler.

The marginal cost of steam, as in the case of power, varies with each individual mill and is largely dependent upon the cost of coal at the mill. Marginal steam cost will vary between a minimum of perhaps 20 cents to a maximum of 35 cents per 1000 pounds. As an example consider an improvement of 1 per cent in a 1000 KW. prime mover having a total steam demand of 15,000 pounds per hour operating 6000 hours per year with a marginal steam cost of 20 cents a thousand pounds. This

* Presented at the annual meeting of the American Pulp and Paper Mill Superintendent's Association, Poland Spring, Maine, July 20-22, 1934.
[1] Industrial Engineering Dept. Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

improvement is equivalent to a reduction in steam demand of 150 pounds per hour or to:

$$150 \times 6000 \times .2 \times \frac{1}{10000} = \$180.00 \text{ per year.}$$

Drives Affect Operating Costs

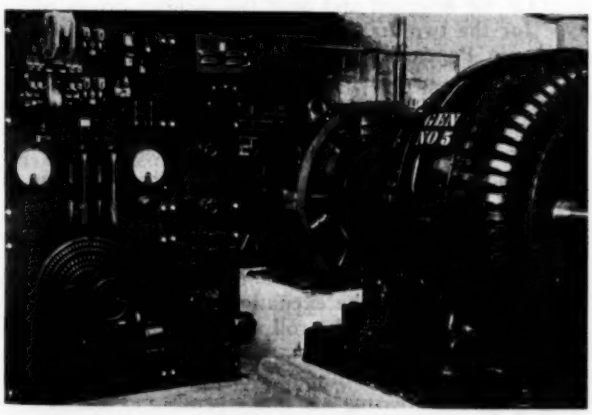
Frequently the operating costs are directly affected by the type of drive to be applied. The elimination of wearing parts in the drive proper or in component parts of the driven machine reduces maintenance cost. The elimination of long lineshafting with the many bearings, belts and clutches not only improves the mechanical efficiency but materially reduces the maintenance cost. Occasionally a processing machine requires power application at more than one point and individual motor drives may be applied thus reducing the maintenance expense, and improving both the functional and mechanical efficiency. Improvements of this type result in savings which are just as real and tangible as any other form of savings, however, they are quite different to evaluate and estimates must be made, or comparisons made with known results in other plants.

Results Must Justify Investment

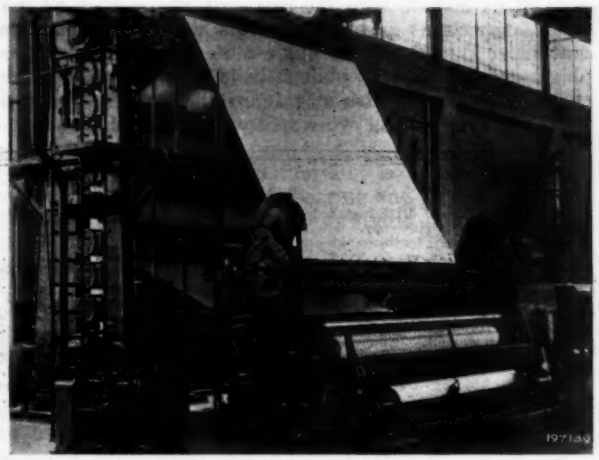
So much for reduced operating costs. Now in any new or improved plant layout the all important consideration is: *Do the results justify the required expenditure?* Unquestionably if there were no restrictions on first cost, almost any conceivable results might be obtained. It is useless, however to reduce operating cost at one point and to add to these costs an equal amount in higher fixed charges. Just how much of an investment are the owners of a property justified in making to reduce operating cost, let us say $1000 per year. The answer to this question which depends almost entirely upon the business judgment of the individual making the replv, will vary from perhaps $2000 to $6000 or from two to six times the estimated yearly savings, depending upon the probable life of the property and of the investment. It is of course always desirable to keep the first cost of the investment required to obtain certain operating results, at a minimum. This requires careful consideration in the selection of equipment.

Three Types of Drive for Paper Machine Compared

It would perhaps be well at this point to consider specifically some of the more important applications throughout the plant from the standpoint of their proper economic selection.



Automatic Control Panel for 350 h.p. Paper Machine Motor Showing Electronic Regulator in Cabinet at Top. At Right Is the 500 kw. A.C. and 300 kw. D.C. Generators which Are Driven by the Non-Condensing Turbine.



By A Synchro-Tie Arrangement, the Paper Is Kept at Exactly the Same Tension as it Emerges from the Super Calender Regardless of Speed.

Let us first consider the paper machine drive. There are three forms of drive frequently considered for this machine:

(1) Section Electric
(2) Single Motor Mechánical
(3) Variable Speed Turbine Mechanical

These three forms of drive are well known so that it will be unnecessary to describe them in detail. In brief the sectional drive consists of a power supplying motor generator set, individual d.c. motors and gear units for the various sections of the machine, complete control and speed regulating equipment for each independent section of the machine. No lineshafting clutches, belts, pulleys or gear stands are required. The single motor mechanical drive consists of a power supplying motor generator set, a single motor for driving the lineshaft and complete control and electronic speed regulating equipment. The variable speed turbine drive consists of a variable speed turbine unit with accessories and special adjustable speed governor, a reduction gear unit and the necessary mechanical parts for connecting to the paper machine lineshaft. Both the single motor and variable speed turbine drive require lineshafting and other component parts of the mechanical drive. Due to the importance of the paper machine in the plant production schedule the functional efficiency of the drive becomes of major importance. To obtain the highest possible functional or productive efficiency the machine should be provided with that type of drive which assures the highest degree of reliability and flexibility in its operation. Other important considerations are mechanical efficiency, maintenance, thermal efficiency and first cost.

As a typical example let us consider a 136-inch nine-section Fourdrinier machine designed to produce 50 tons of book paper per 24 hours over a speed range of 150-600 r.p.m. with a production schedule requiring an average yearly operating speed of 50 per cent of the maximum speed and a power requirement of 200 h.p. at maximum paper speed. Let us assume a difference of $50.00 in the price of the finished product and the cost of the raw material also that the equipment will be installed in a plant operating a modern power plant with a power demand in excess of that which can be met on the non-condensing unit and with a marginal steam cost of 20 cents per 1000 pounds and a marginal power cost of ½ cent per horsepower hour and with a 6000 hour operating year. In each

case let us include with the first cost, the cost of all material as well as installation costs including labor and material. With both the single motor and variable speed able speed lineshafting, pulleys, belts, clutches, gear stands, turbine cost we will also include installation costs for vari- etc. For such a drive we would estimate the following:

	Sectional Electric Drive	Single Mtr. Mech. Drive	Variable Turbine Mech. Drive
First cost of complete drive installed ..	$44,775	$44,275	$37,000
Improved functional efficiency. 1% for sectional and one tenth of 1% for single motor	6,000	600	...
Improved mechanical efficiency. Elimination of line-shafting	600	...	...
Improved thermal efficiency. Main power house unit compared with variable speed turbine units	850	850	...
Reduced maintenance. Elimination of line-shafting, bearings, clutches, belts, etc.	1,000	200	...
Total Savings	$ 8,450	$ 1,650	...

Sectional Electric Drive Shows Greatest Savings

This estimate would indicate, that with sectional electric drive as compared with variable speed turbine mechanical drive a yearly saving of $8450 could be obtained with an additional investment of $7775, or when compared with single motor mechanical drive, a yearly savings of $6800 could be obtained with an additional investment of $500. When a comparison is made between single motor and variable speed turbine mechanical drive the estimate indicates that a yearly saving of $1650 could be obtained with an additional investment of $7275. These figures are of course based on the hypothetical case and would vary with actual conditions involved in any particular instance.

As indicated the foregoing estimate is on the basis of the installation of a complete new paper machine drive, including not only the driving equipment but in the case of the single motor or variable speed turbine, also lineshafting, gear stands, clutches, belts and pulleys. In those cases where the machine is already equipped with satisfactory mechanical parts suitable for the proposed operating conditions, the first cost of the complete drive installed would be somewhat less than the figures given for both the single motor or variable speed turbine drives. The actual cost in such cases would depend upon the extent of the revamping required with the mechanical parts.

Electronic Speed Regulator Installed at Cherry River

In connection with the efficient operation of a single motor paper machine drives, our Company recently developed the electronic speed regulator. This regulator is extremely sensitive assuring a very high degree of accuracy, however, as it has no moving mechanical parts it functions without mechanical friction or inertia, and corrections are made with the greatest possible rapidity. The regulator requires neither constant maintenance or delicate mechanical adjustments to insure its proper functioning. Stability is obtained over the entire operating range by effective anti-hunting means. The most efficient overall performance of this type of drive is assured, as the lineshaft speed is accurately maintained and the speed of the wet end sections are not affected by clutching in the heavier sections of the machine. Since the installation of this type of regulator on the 138-inch Fourdrinier machine of the Cherry River Paper Company in 1932 a number of other installations have been made all of which are giving excellent results. The Cherry River Paper Company machine is of interest not only because it was the first installation but because the machine is required to operate over a speed range of 75 to 900 r.p.m. which is a comparatively wide range. The motor is rated at 350 h.p. maximum speed.

Wet End Felts Relieved

In connection with the low cost operation of paper machines the development of motor drive for the individual wet end sections of cylinder type machines is of interest. Although the development of this form of drive is not new, it has been receiving considerable attention recently. Some seven years ago our Company built the first sectional drive with motor applied to each individual sections of the wet end for the 130-inch 7 cylinder board machine of the National Paper Products Company, Port Townsend, Wash. The purpose of this method of drive was to relieve the wet end felts of all drag and tension, which is otherwise required to turn the numerous cylinder moulds and primary presses. In advocating this form of drive we felt that the reduction in operating cost and the improvement in quality possible with this form of drive would justify the added investment required. Our original ideas regarding the possibilities were apparently well founded as this form of drive is now in operation in a number of the loading paper board mills of the country. Mills operating drives of this type have reported increased sheet strength with standard machine furnish, equal strength with inferior furnish and a material reduction in felt costs per ton of board produced.

Although this form of drive as originally installed was a part of a complete sectional drive it is entirely feasible to obtain the same operating advantages in connection with the wet end by applying this drive to machines equipped with lineshaft drive. When applied in this manner the operation of the wet end sections is synchronized with the operation of the first main press by driving a direct current generator supplying power to the individual wet end motors from the intake shaft of the first press on the machine side of the clutch. To assure the initial torque for acceleration during starting and the development of uniform torque over the operating speed range, a low voltage separately driven booster generator is introduced into the circuit. A number of drives of this latter type are now in successful operation, improving plant performance and reducing operating expenses.

Regenerative Braking and Automatic Tension Control Improves Operation

The use of regenerative braking and automatic tension control in connection with the unwinding stands of winders or rewinders, improves operation, assures more perfectly wound rolls, and reduces maintenance and power costs. In 1926 we designed and built two winder drives of this type for the two 160-inch newsprint machines at the St. Lawrence Paper Mills, Three Rivers, Que. Each drive included a motor generator set for supplying power to the winder, a single direct current adjustable speed motor for driving the winder, a braking generator coupled to the core of the unwinding stand, and complete control with automatic tension adjusting regulator. These winders are designed for operation at 2500 r.p.m. and at this speed require approximately 40 h.p. The braking generator is used instead of the usual form of mechanical brake on the unwinding stand, and the tension control device serves to automatically adjust the excitation of this generator as it changes in speed with the roll size, so that the tension in the sheet is maintained substantially constant. The power which, with the conventional form of braking went to heating up and wearing out brake bands and drums is returned to the winder. Better rolls are wound without the necessity of constant supervision, considerable maintenance is eliminated and less power is required for winding. Power readings indicate that approximately 50 per cent

of the total power is returned through regenerative braking which is equivalent to some 20 h.p. per machine. A number of mills have installed this same principle of regenerative braking and tension control since this earlier installation and all report very satisfactory results.

Coating-Machine Drive Improved

Recently some improvements have been made in the form of drive for coating machines. Instead of a single motor drive with mechanical connections between the various points of power application we are now applying individual direct current motor gear units at each point with a separately driven motor generator set for supplying power to the motor group and with centralized control. This form of drive eliminates the rather cumbersome mechanical connections required with the more conventional form of drive and provides for independent control and speed adjustment of each section. A suitable threading speed is readily obtained by reducing the voltage of the main direct current generator. Each motor of the group is given special speed load characteristics which enable it to maintain the correct relative speed for various adjustments of the operating speed. On a comparatively recent installation individual motors were applied to the coater, the brush drive, the dryer section, the pull rolls, and the reel. Individual meters are provided for each section so that the operators may see at a glance the operating conditions of the machine. Drives of the type described assure maximum flexibility, increased operating speeds, improved functional and mechanical efficiency and reduced maintenance costs.

"Electrical Line-Shaft" Developed

I would like to call your attention to a form of electrical drive which might well be termed "The electrical line shaft." This form of drive which consists of two synchro-tie units connected together electrically has extremely interesting possibilities. The synchro-tie units are identical, wound rotor induction motors each having their primary winding connected to the a.c. supply and their rotor windings connected together. With the synchro-tie units connected in this manner exact mechanical motion may be transmitted from one unit to the other without any interconnecting medium except the electrical circuit. If one unit is rotated the other unit rotates a similar amount or if one unit is rotated continuously the other unit rotates at exactly the same speed and in synchronism. This convenient form of electric drive may be used to replace other more complicated forms of mechanical drive simplifying the layout, reducing maintenance, and improving performance. The system is suitable for the operation of devices located at remote points from convenient positions, for indicating the position of devices located at inaccessible points, for synchronized and correlated power transmission where mechanical transmission is difficult due to the requirements of the drive. This system has been used in paper mills for the adjustment of draws from the front side of the machine, for driving winder in exact speed relation with the calender, for position indication of waterwheel gates and floats, etc. There are undoubtedly many other uses to which this system of drive could be economically applied which will occur to those of you who are more familiar with your mill requirements.

Proper Selection of Equipment Increases Profits

The proper selection of electrical equipment assures a minimum maintenance cost in operation. The different motor types are now supplied with various mechanical modifications making them suitable for any location in the mill. For damp locations to splash and drip-proof or the totally enclosed forced ventilated construction may be applied. For atmospheres where corrosive gases are encountered the totally enclosed or totally enclosed fan cooled construction is available. The modern form of sealed sleeve bearings as furnished with our motor equipment prevents oil contamination and leakage and assures continuity of service and low bearing and lubrication cost. This bearing construction also prevents damage to the motor winding from one of the most serious of causes, oil leakage.

There are many applications in the mill where the protection afforded by standard types of control is not adequate to meet the operating conditions. Such cases include high ambient temperatures, restricted ventilation due to accumulation of dust or dirt, frequently repeated overloads, and severe starting conditions. In such cases unless more adequate protection is provided overheating of the motor results and its life is materially shortened.

At a slight additional cost motors may be equipped with thermoguard protection. This protection consists of a sensitive and accurate thermal relay built into the motor and arranged to either disconnect the motor from the line or to give an alarm if the motor reaches a dangerous temperature. An investment in adequate motor protection is soon written off in improved plant performance and reduced maintenance.

In the low voltage distribution circuits throughout the mill, the use of no fuse De-ion circuit breakers in place of fused disconnect switches will improve the overall plant performance by eliminating delays either resulting from improper fusing or required for fuse replacements. These breakers have extremely high interrupting capacities and are supplied with built-in factory adjusted overload relays with field calibration which prevents tampering by unauthorized persons.

Use High Voltage for Big Plants

By a careful selection of equipment the first cost may be held to a minimum. For example if we were to plot the installation costs of both 440 volt and 220 volt motors, control and distribution equipment, we would find that for small horsepower ratings the price of 220 volt equipment would be prohibitive, whereas for the larger motor ratings the reverse would be true. We would also find that these cost curves would cross at a point somewhere between 50 and 100 h.p. In planning either a new development or an extension this fact should be kept in mind and the plant distribution system laid out accordingly. There will of course be mill conditions where exceptions to the more or less general rule should be taken. For example, if it were necessary to install a 100 h.p. motor in a mill department where the feeder circuits were all 440 volts it would perhaps be less expensive to extend this 440 volt system than to install a new 220 volt feeder for this 100 h.p. motor.

High Speed Geared Motors for Jordans

Recently certain mills have installed geared type induction motors on jordans and beaters after a careful cost analysis indicated that the high speed geared motors having equal overall efficiency could be installed at a lower first cost. These high speed geared induction motors also have the added advantage of higher power factor keeping the plant investment in generating and transmission equipments at a minimum. In this particular connection it is well to bear in mind that in cases where the plant is operating at a low power factor and requires corrective Kva. capacity, 80 per cent power factor synchronous motors may be economically applied to either Jordan or beater drives.

The modern gearmotors construction consists of a motor and gear unit built integral. This construction provides both compactness and ease of installation as the mounting and aligning operations are reduced to a minimum. With induction motor drives low operating speeds are obtainable at higher efficiency and power factor than by direct connected slow speed motors. Our Company is now building a complete line of these units including single or double reduction speed reducers supplied with a standard motor. The gearing is all external type, single helical, with steel gears and pinions. This type of gearing assures smooth, quiet and highly efficient operation. The shafts are all mounted in anti-friction bearings, and one bearing of the motor armature is mounted in the motor bracket and the other bearing is mounted in the speed reducer housing. Thorough lubrication is supplied to gearing and bearings by a simple positive splash system. Gear ratios are available from 5 to 1 in the single reduction up to 40 to 1 in the double reduction.

Cooperation Pays Dividends

I have attempted to outline for you some of the more important points which should be taken into consideration in selecting paper mill drives. As manufacturers of electrical equipment we have always taken a keen interest in your problems of power generation and utilization. You as users of this type of equipment have given us splendid cooperation in clearly pointing out your requirements and difficulties. This type of cooperation between user and manufacturer invariably results in successful accomplishment. Undoubtedly there is still much more to be accomplished so let us continue as we have in the past and rest assured that our future results will be equally successful.

Controlled Production*

By Arthur C. Smith[1]

The subject of controlled production is so broad and details so many and involved, it will not be possible to cover the entire problem in detail. So we shall omit all unnecessary technicalities and present only the basic principles and operation of a system of production control.

First, controlled production does not mean substituting a robot for intelligent supervision, for no system has been and in my humble opinion, ever will be devised, that will replace intelligent supervision.

Equipment, however ingeniously designed, and correctly applied, will produce results that are a measure of the capacity of the men, or organization directing it. It is the man that makes equipment. Equipment cannot make a man.

Most of the paper used by converting plants is processed by machinery. The successful operation of which depends largely upon the uniformity of the product fed into the machines. Exactly the same principle applies to a paper machine.

To get uniform paper with the required characteristics, requires stock prepared with precision, and that means measurement. To meet the exacting requirements of the trade, it was necessary for us to develop a control system.

The basic principle being to supply stock to the machines, uniformly prepared and at a uniform density. The product is then dependent upon the mechanical condition of the machines and the skill of the machine and beater help. And, if they can make paper without the aid of control, they will make more and better with it, with considerable less broke and rejected paper.

The system operates as follows: We have a control room equipped complete with control instruments and scales, in charge of a control man who is responsible for the measurement of all furnish to the beater as called for by the orders. The responsibility is then confined to one man, this in itself is a decided advantage. The beater orders for all machines go to the control man. On orders calling for slush stock he sets the controller for the amount required by the order. The beater man has only to open the valve and a predetermined amount is pumped in. After which, the pump stops, until he closes the valve. The stock is not only measured in, but a graphic record is made of both quantity and time.

The same applies to size, alum and water. The lapped stock and baled dry pulp is weighed in on a dry basis. The control man being provided with charts and moisture tests.

The success of the system has been its simplicity of operation. The control man setting the controller for the amount required, and the beater man opening the valve when ready and the correct amount is metered to beaters without any attention. When he sees the stock, size, alum or water stop, he simply closes the valve and the amount and time is recorded with the human element eliminated. The controls are changed only when the furnish is.

The superintendent or boss machine tender does not have to ask what has gone into the beaters or the order in which they were furnished. He has merely to look at the charts and the complete picture is there. In making changes in furnish, size, etc., same can be done with confidence. The saving in size and alum is considerable, also inventory differences practically disappear.

The operation of the controls, insofar as the control man is concerned is the same. But from the control back to the source of supply, the system consists of four component parts: slush, size, alum and water; each a problem in itself.

Slush

The slush is deckered off in the conventional manner, direct to storage chest, of which we have two. From this chest the stock is pumped through a circulating system provided with a stock regulator to the second chest, back by gravity to the first. This operation being continuous the stock in storage is of uniform density.

To meter the stock we use a measuring tank which when full registers zero on chart and controller. On orders calling for slush the control man sets the control for the amount required and does not touch it again until the furnish is changed.

The cycle operates as follows: The beater man opens the valve to beater and the valve from the storage tank to pump closes, the value from measuring tank opens, and valve on circulating line closes, the valves being in position the pump starts and pumps from measuring tank the amount set for by the control. Then the pump stops. The beater man closes the valve and valve from measuring tank closes, valve on storage tank opens and valve to measuring tank opens. The valves being in position the pump starts and fills measuring tank to zero. The pump stops and the

* Presented at the annual meeting of the American Pulp and Paper Mill Superintendents Association, Poland Springs, Maine, June 20-23, 1934.

[1] Racquette River Paper Company, Potsdam, N. Y.

valve to measuring tank closes and valve on circulating line opens. When valves are in position, pump starts and pumps stock through circulating system and cycle is complete; ready to charge another beater. The cycle is completed in about four minutes.

The pump and measuring tank serves eleven beaters, divided into groups serving three machines, each being independent of the other and interlocked electrically so no two beaters can be charged at the same time, or filled while measuring tank is being filled.

Size

The Size is made in a conventional manner and pumped into storage tanks. Each group of beaters for its respective machine has a measuring tank into which is pumped the amount of size required for the furnish from storage tanks. The control is set for the amount and when ready the beater man opens the valve and when the size stops flowing, closes it. When valve is closed the required amount of size is again pumped into measuring tank ready for use. The cycle repeats itself until control is changed. The amount is recorded as well as measured.

Alum

The Alum is purchased in cakes and weighed into a dissolving tank and dissolved; from which it is diluted with a measured amount of water into the storage tanks at the correct concentration. The system of measurement, distribution and control is the same as the size.

Water

Beaters of any capacity and charged to any given density requires a definite quantity of water. The amount to be added being the difference between the total required and the amount in the furnish. This assures the correct density for beating. The charging density of the beaters being always the same, it is just as important to drop them at a uniform density to maintain even weights on the paper machine. For example, the beating density being 5 per cent and to be dropped at 3 per cent the difference is constant. Therefore, the water control consists of two operations; charging and emptying. The control man sets the control for the amount required for charging, that being obtained from the furnish. The beater man then opens the water valve and pushes a button and the water is measured in. When water stops flowing he closes the valve and controller resets to zero, completing the cycle. The wash water is constant and added in two steps, each being equal. For this operation the control is fixed and has a separated push button. When dumping a beater, the beater man opens the water valve and pushes the wash water button and the correct amount is measured in. After circulating, approximately half the beater is dropped and the cycle is repeated for the remaining half.

The stock is now in the beater chest at a uniform density and remains so for all the stock dropped is the same density. The stock is pumped from beater chest to jordan to machine chest. The stock coming into the machine chest is of uniform density and the problem is now to keep it so. This involves the white water system and the wet broke in the save-all pit.

White Water System

Because of frequent changes of orders and colors it was necessary to develop a system of stock recovery with a minimum of storage and equipment and a piping layout that could be quickly and easily washed out. The slime is controlled by chlorinating all fresh water to the mill. The operation can best be shown with the aid of a flow diagram. All white water is collected in the wire pit which is tile lined and fitted with an over-flow, drain and suction pipe to pump.

From pump dilution water for stock to screen is supplied to an eductor. Water in excess of dilution water goes to the Bird save-all. The supply to the Bird save-all is controlled by a remote control float valve which maintains a constant level in pit. The recovered stock from save-all goes direct to machine chest. The density is controlled by the pitch of discharge spout to pipe leading to chest. In event of the stock thickening, causing it to build up above a predetermined level, a photo-electric controlled shower dilutes it. The effluent from the Bird save-all goes to a flow box with a skimmer on top to pass the excess water and foam. From the bottom controlled by a slide valve, the water passes to the pump suction compartment. This compartment is equipped with a float valve supplying fresh chlorinated filtered water when needed. The water then flows to pump and pumped back to the machine showers. All excess water goes down the over-flow pipe into a weier equipped with a recorder, giving a record of water leaving the system. Five minutes will change orders as far as machines and white water system goes. The system is clean at all times because of the fact every time stock is off, the entire system is flushed out with chlorinated fresh filtered water automatically.

To wash up it is necessary to open but one valve, the drain valve in pit and let the fresh chlorinated water flush out pipes and pass out the drain. The Bird save-all is equipped with a large drain valve on the bottom and its simple and open construction makes it very easy to clean.

The entire system holds less than 1,000 gallons, therefore, the loss on changing orders is negligible. Also the system is efficient and very simple; one pipe to save-all and one pipe back to the machine. The effectiveness of this method of stock recovery is shown on the chart. The instrument is a liquid level gauge and measures the head on a standard 90-degree V-notch wier, measuring the excess water leaving the system. To this must be added the tray water from the cleaning showers on the Bird screens which we do not re-use.

The use of an eductor in place of a mixing pump has many advantages. First: It is necessary that the supply pump from the pit have ample capacity and very flat pressure curve over the range for which it is to be used, if the maximum benefit is to be obtained from the use of an eductor.

Second: The eductor has no moving parts and is self-cleaning, being nothing but two tapered tubes.

Third: It requires no additional power and there is nothing to vary.

Fourth: Different weights of paper require different quantities of water. The eductor is ideally designed to do this as the orifice is variable and with a constant pressure for any given opening of orifice a definite amount of water will pass, in fact, if calibrated, makes a good meter.

Fifth: There is no separation of stock and water as in centrifugal pump.

The problem of save-all under couch is taken care of with two showers; one normally used for cleaning wire, discharging into main pit. The other over the couch save-all pit. Use a photo-electric cell and when paper breaks, the valve on shower over couch pit opens and washes stock into same. Knowing the average production and having a constant water pressure the holes in the shower can be the correct size to furnish the necessary quantity of water to dilute this stock to the density of stock in the machine chest. When the paper is on the machine this shower shuts off when the beam light on the photo-electric cell is intercepted by the paper.

The subject of beating of stock has purposely been

omitted as volumes have been written on this subject and we have nothing to add. We follow what is accepted as good standard practice. The same is true of the actual operation of the paper machine, but cannot emphasize too strongly the importance of correct dryer conditions to avoid cockle, curl and poor sizing.

The photographs will show many of the details that have been omitted.

In conclusion will say that the operations in the mill have been made much easier with the control system than without.

The control men are practically mill men. The interest they have taken and the proficiency they have developed is very satisfactory and is the result of meeting them as men and speaking their language in explaining why and how it works. From experience with men in the mill, know most of them are eager to be taught, if correctly approached and their curiosity excited. And what many times is considered lack of understanding is merely lack of expression. And I do not consider any system of control complete without a contact of mutual respect and confidence between the technical men and the men operating the mill.

This system was made possible only by the wholehearted support of the management to whom much credit is due.

S. A. Staege Now With Black-Clawson-Shartle

S. A. Staege, formerly with the Westinghouse Electric and Manufacturing Company, East Pittsburgh, has joined the Black-Clawson-Shartle organization, where he will devote his efforts to the further advancement of the big Black-Clawson and Shartle Brothers paper machinery line and to the development of many special designs to meet special mill conditions.

Mr. Staege has had a long and varied experience in the paper mill field, where he has contributed much toward the solution of a wide assortment of paper machinery problems. He was for four years with the Langstadt-Meyer Company, at the time the electrification of the mills at Appleton and in the Fox River Valley was consummated. Later he was with Allis-Chalmers, engaged in paper mill engineering in Northern New York.

From 1910 to 1918, Mr. Staege was engaged in hydro-electric and paper mill engineering with offices at Watertown, N. Y. During this period he developed the J. B. Wise hydro-electric plant on Black River; one of the first very low head high speed turbine installations with direct connected vertical type A. C. generators ever erected. In 1918 Mr. Staege joined Westinghouse, where during the next eight years he organized the paper mill division of their engineering department and directed paper mill electrical applications, surveying the industry, collecting power requirement data for motor drives and developing automatic regulating and control devices and new apparatus.

Particularly was he identified with the development of the electric sectional paper machine drive, building the first sectional paper machine drive regulator installation in this country, at Lyon Falls, N. Y.

During the past eight years, also at Westinghouse, Mr. Staege, as consulting engineer, has seen many improvements in the automatic regulation of sectional and single motor paper machined drives, multiple motor winder drives with regenerated braking and automatic tension control, the first installation of which was made at the St. Lawrence Paper Mills at Three Rivers, Que.; also calender-winder drives, etc.

More recently he has devoted special attention to automatic process control and to the use of electrical devices in regulating and control problems and to devices for the measurement of paper opacity, color matching and the measurement of other paper characteristics. He is a member of Technical Association of Pulp and Paper Industry, member of American Society of Mechanical Engineers, fellow of American Institute of Electrical Engineers, associate member Institute of Radio Engineers, contributor of many articles on paper mill subjects.

In his new capacity with the Black-Clawson-Shartle organization it is predicted that Mr. Staege will contribute still more, although his past contributions loom large, to the still further advancement of the machinery building branch of paper making, and that mills in need of special designs to meet this and that special condition will refer many of their problems to S. A. Staege for attention.

Stein Hall Joins TAPPI

The Technical Association of the Pulp and Paper Industry is pleased to announce that Stein Hall has become a contributing member. Because of its importance to the paper industry, many will be interested in some intimate facts about Stein Hall.

The original company was established almost seventy years ago as a manufacturer of starch and kindred products. The organization, now composed of Stein Hall & Co., Inc., New York, and Stein Hall Manufacturing Company, Chicago, does a manufacturing, importing, and distributing business. It has branches throughout the United States and Canada, and purchasing divisions in Holland and Java. The company is a large distributor of domestic corn starch, wheat starch, and domestic potato starch. It also imports a variety of products including tapioca flour and sago flour from the Far East, and potato starch from Holland. Its factories in Long Island City and Chicago produce all kinds of dextrines and modified starches which are distributed to many different industries.

Stein Hall offers the paper industry starch, tapioca and specially processed carbohydrates for use in beater, calender and tub sizes. It also supplies products for adhesive work, such as splicing, heading combining and lining.

Particular attention is given to the needs of the paper industry. Fully equipped laboratories are maintained in New York, Chicago, Long Island City, and Charlotte. Chemists and technicians skilled in paper chemistry are employed to solve problems which arise in the manufacture of paper. Special equipment has been developed by Stein Hall chemists to test starches so as to ascertain their properties and characteristics for use in paper. Photomicrographic equipment makes possible a permanent record of the microscope's findings. Much time is devoted to experimentation and research.

The field staff which operates in collaboration with the laboratories, visits mills continually for consultation on paper manufacturing problems.

Several years ago Stein Hall established a fellowship at the Institute of Paper Chemistry, Appleton, Wis. The experiments made possible by this endowment are expected to contribute to the knowledge of the action of starch and starch modifications, in paper. In addition to its own laboratory personnel, Stein Hall retains as consultant, a Professor of Chemistry of one of the large eastern universities. This makes possible close collaboration in solving problems pertaining to starch chemistry. The special chemical and physical apparatus used in the university is also available.

The interchange of ideas between the practical and academic field brings to light much scientific data of vital importance to the paper industry.

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Raw Materials

Paper Making Qualities of Woods from Cameroons. F. Heim de Balsac, A. Parveaud and L. Lefevre. Bull. Agence Gen. Colonies 26: 1432-1437 (Dec., 1933).—"Ilomba" *Pycnanthus Konbo* Warb.) was cooked 7 hrs. at a pressure of 3.5 to 4 kilos per sq. cm., with 5.5 per cent caustic soda (on the weight of the wood) at a concentration of 7 deg. Bé. It yielded 42.3 per cent of hard-bleaching pulp suitable for the production of ordinary grades of paper. "Esoula" (*Placodiscus pseudostipularis* Radlk.) was cooked 11 hrs. at a pressure of 3.5 to 4 kilos per sq. cm., with 3.5 per cent caustic soda at a concentration of 6 deg. Bé. It yielded 27.1 per cent of hard-bleaching pulp suitable only for low-grade papers. "Naliangayele," cooked 6 hrs. at 3.5 to 4 kilos per sq. cm. with caustic soda at a concentration of 6 deg. Bé. yielded 42 per cent of hard-bleaching pulp that gives a rather weak paper.—A. P.-C.

Paper. Marcel Demouy. Fr. pat. 751,000 (Aug. 24, 1933).—Paper pulp is made from the stems, branches or trunks of banana trees.—A. P.-C.

The Problems of Bamboo. Anon. World's Paper Trade Rev. 100: 1121-1126 (Oct. 13, 1933).—Comparative semi-commercial pulping and paper making tests were carried out on old flowered bamboos, freshly flowered bamboos and mature bamboos. The results clearly showed that flowered bamboo, even after four years' standing and though dry and dead, retained their paper making qualities, but required slightly more drastic treatment than mature bamboo.—A. P.-C.

Manufacture of Pulp from Peat Comminuted in a Frozen Condition. E. Pallas. Kunststoffe 24, no. 1:5-6 (Jan., 1934).—A process is described according to which peat is first frozen and then comminuted in this condition. The material is then digested under pressure with or without chemicals and then bleached.—C. J. W.

Mechanical Process

Groundwood Studies: Theoretical Efficiency. W. Boyd Campbell. Pulp Paper Can. 35: 218-219 (March, 1934).—The amount of useful work done in grinding wood is estimated to be about 0.012 per cent of the total energy consumed by the machine. If anything, this figure is on the high side.—A. P.-C.

Device for the Regulation of the Temperature of Wood Grinders. W. Drechsel, Muldenstein. Ger. pat. 592,107 (July 21, 1931). The device consists of a system of thermoelements arranged at the end of the pressure cylinders next to the grindstone and an accompanying shower line for each thermoelement.—J. F. O.

Automatic Regulating Device for Wood Grinders with Multiple Presses on the Same Stone. Aktiengesellschaft Brown Boverie & Cie, Baden, Switzerland. Ger. pat. 591,613 (Oct. 12, 1930).—J. F. O.

Wood Meter for Grinders. Hervey G. Cram assignor to Maine Seaboard Paper Co. U. S. pat. 1,939,590 (Dec. 12, 1933).—Means are provided for accurately measuring the height or length of the column of wood which actually passes through the magazine. The device consists of an endless chain traveling around two sprocket wheels mounted on the wall of the magazine and carrying spikes which project inside the magazine. The travel of the chain is registered by means of a revolution counter connected to one of the sprocket wheels.—A. P.-C.

Wood Grinder. Andrew N. Russell and John D. Robb. U. S. pat. 1,948,189 (Feb. 20, 1934).—The invention provides a magazine-grinder feed in which the wood is continuously fed to the stone by the direct application of fluid pressure. This is effected by providing two sets of reciprocal feed members, arranged to opposite sides of the magazine, and actuated by the direct application of fluid pressure. The feed members are each provided with a number of pivotally mounted pawls, normally arranged to apply feeding pressure to the wood charge only during movement of the members towards the stone; during the reverse movement of the feed members, the pressure-applying pawls are automatically retracted from engagement with the wood charge. Each member is connected to a piston operating in a cylinder equipped with a valve controlling the flow of operating fluid in such a manner that the piston is moved alternately towards and away from the stone.—A. P.-C.

Alkaline Processes

Production of Half Pulp from Straw Without Pressure. M. Resh, L. Skulskaya and A. Rubenkina-Goer. Arbeiten den allrussichen Institutes für die Papier-und Zellstoffindustrie No. 2:157 (1933).—The effects of chemicals and their quantities of liquor concentration and of temperature were studied on the production of half-stuff from straw without pressure. Experiments with calcium hydroxide (24 hours at 15 deg.) and sodium carbonate (3 hours at 80 deg.) gave poorer results than those obtained with sodium hydroxide. Alkaline smelt liquors, from the regeneration of the monosulphite and kraft processes, were also used, the ratio of sodium hydroxide to sodium sulphide being varied. The optimum results were obtained at 80 deg. for 1 to 2.5 hours with sodium hydroxide to sodium sulphide equal to 10 to 17 per cent of the dry straw. Bleaching experiments gave poor results.—C. J. W.

The Cooking Process. VIII. Cooking Wood With Sodium Sulphide. S. I. Aronovsky and Ross Aiken Gortner. Ind. Eng. Chem. 26: 61-65 (Jan., 1934).—Cooking experiments carried out on aspen sawdust with 14.7 and 29.4 per cent sodium sulphide (equivalent on the sodium basis to 20 and 40 per cent of sodium carbonate), showed that it inhibited the destructive effects of water on the alpha-cellulose at the higher temperatures and longer cooking periods, and that is a strong pulping agent.—A. P.-C.

The Cooking Process. VII. Cooking Wood With Sodium Hydroxide and Trisodium Phosphate. S. I. Aronovsky and Ross Aiken Gortner. Ind. Eng. Chem. 26: 220-226 (Feb., 1934).—Experiments on aspen sawdust showed that sodium hydroxide is a strong pulping agent and hinders the hydrolytic action of water on the alpha-cellulose; and that cooking with trisodium phosphate

yields results similar to those obtained with sodium carbonate.—A. P.-C.

Cooking Cellulosic Material for Fiber Liberation. George A. Richter assignor to Brown Co. U. S. pat. 1,934,579 (Nov. 14, 1933).—Material such as wood chips is cooked short of fiber liberation in an alkaline sodium-base liquor such as one containing caustic soda and sodium sulphide, and, after separation of this liquor, is further cooked, to effect complete fiber liberation, in a substantially neutral solution containing a sulphite.—A. P.-C.

Pulping Raw Fibrous Materials. George A. Richter assignor to Brown Co. U. S. pat. 1,935,728 (Nov. 21, 1933).—Raw material such as manila, sisal or ramie is treated with an oxidizing reagent such as chlorine water and hypochlorite liquor; the material is then pulped in a sodium sulphite liquor.—A. P.-C.

Pulping Deciduous Wood. John Traquair assignor to The Mead Research Engineering Co. U. S. pat. 1,936,697 (Nov. 28, 1933).—Raw uncooked hardwood chips are passed continuously through a rod mill, together with caustic liquor at a temperature below 50 deg. C.—A. P.-C.

High Alpha-Cellulose Pulp. William D. Nicoll assignor to E. I. du Pont de Nemours and Co. U. S. pat. 1,931,933 (Oct. 24, 1933).—Raw gramineous fiber such as that of bagasse substantially free from pith is counter currently digested in alkaline liquor such as caustic soda solution maintained at 130 deg. to 160 deg. C. The pulp is then washed and countercurrent digestion is continued until a pulp is obtained containing at least 95 per cent alpha-cellulose on the dry basis.—A. P.-C.

Separating Bast Fibers from Shives. Clark C. Heritage, Earl R. Schafer and Lynn A. Carpenter assignors to the Govt. and people of the U. S. U. S. pat. 1,922,366 (Aug. 15, 1933).—For separating seed flax straw, etc., into its components, the material is subjected to vibration to remove chaff, seed pods and other foreign constituents, cut into varying lengths, extracted with organic solvents to remove gums, resins, waxes and fats, the solvents are drawn off, and the resulting material is subjected to the action of a heated dilute alkaline solution such as a 1 per cent custic soda solution; and the remaining material is extracted, washed, dried, disintegrated and screened.—A. P.-C.

Alkaline Pulping Process. Clinton K. Textor assignor to The Northwest Paper Co. Can. pats. 336,325 and 336,326 (Oct. 10, 1933).—*No. 336,325*—Wood chips are treated at high temperature with a liquor containing sodium sulphite as its principal reagent and also containing sodium carbonate; the spent liquor is separated and concentrated and the product is carbonized or melted. The sodium compounds thus formed are dissolved in water and the solution is treated to form a liquor containing sodium sulphite as its principal reagent and also containing sodium carbonate. Some carbon dioxide is preserved in the solution in a free or loosely combined form. The wood is treated with the resulting liquor. *No. 336,325*—Wood chips are disgested with a liquor of an alkalinity not less than pH 7.5, which contains 30 to 40 lbs. of sodium sulphite and 1.3 to 2.6 lbs. of sodium carbonate per 100 lbs. of oven-dried wood. From one-quarter to three-quarters of a cu. ft. of liquor is used per cu. ft. of wood chips in the digester, at a temperature of 175 deg. to 188 deg. C. for 3 to 7 hours. The base of a soda-containing black liquor is recovered by addition to the liquor of a material containing caustic soda, evaporating the liquor to a syrupy consistency and incinerating, whereby the soda content is converted substantially all into sodium carbonate. The carbonate is leached from the ash and the leach liquor treated with a predetermined amount of sulphur dioxide to form sodium sulphite from a portion of the sodium carbonate and to convert the remainder into sodium bicarbonate.—A. P.-C.

Heat Utilization in Pulp Cooking by the Alkaline Processes. W. T. Webster. Paper Trade J. 98, No. 14: 50 (April 5, 1934).—Answers to a questionnaire sent out to obtain mill data on heat requirements in alkaline pulping processes did not furnish any basis for arriving at any definite conculsion, but indicated that, generally speaking, the larger digesters are more efficient as regards heat utilization than the smaller ones.—A. P.-C.

Separating Fibrous and Non-Fibrous Constituents of Vegetable Materials Such as Cereal Straws. Adolf Hawerlander assignor to Albert D. Stewart. U. S. pat. 1,941,350 (Dec. 26, 1933).—The material is agitated with steam in a solvent such as aqueous liquor containing slaked lime to loosen and dissolve non-fibrous material, the solution formed is separated by mechanical pressure from the fibrous material, and the solution is then evaporated to recover a non-fibrous residue.—A. P.-C.

Process for the Manufacture of Pulp from Wood, Especially Pine Wood. J. Nielsen, Drammen. Nor. pat. 53,189 (Dec. 5, 1931).—The raw material is treated with three different solutions; a reducing salt, an alkali or base and the third solution contains an oxidizing salt. These solutions act in a weak concentration and at low temperatures and between each treatment there is a wash process.—J. F. O.

Process for the Manufacture of Pulp from Straw and Similar Grasses. A. Basler, Berlin. Ger. pat. 591,115 (Nov. 3, 1932).— The cooking takes place with sodium hydroxide; and the caustic condition is maintained by adding calcium hydroxide; and in this manner a great saving in sodium hydroxide is effected.—J. F. O.

Refining Sulphate Wood Turpentine. Wilbur F. Gillespie and Daniel M. Wadsworth assignors to Bogalusa Paper Co., Inc. U. S. pat. 1,938,693 (Dec. 12, 1933).—Sulphate wood turpentine is treated with ethylene diamine or its equivalent to remove offensive odors.—A. P.-C.

Production of Fertilizer from Black Liquor. Harold R. Murdock assignor to The Champion Fibre Co. U. S. pat. 1,933,445 (Oct. 31, 1933).—Nitric or phosphoric acid or an acid nitrate or phosphate is used for neutralizing black liquor containing a suitable proportion of an alkaline potassium compound.—A. P.-C.

Treatment of Sulphite Solutions Such as Residual Solutions from Cooking Wood. Linn Bradley and Edward P. McKeefe assignors to Bradley-McKeefe Corp. U. S. pat. 1,934,655 (Nov. 7, 1933).—A residual solution containing sodium sulphide is mixed with ammonium, calcium and magnesium sulphites and magnesium sulphate, and heated to remove hydrogen sulphide.—A. P.-C.

Utilizing Black Liquor from Sulphate or Soda Pulp Manufacture. Edward G. Goodell. U. S. pat. 1,931,536 (Oct. 24, 1933).—For recovering alkali metal values and heat of combustion from black liquor, concentrated black liquor and black liquor powder are introduced into a smelting furnace together with inert gases to retard combustion of organic material present.—A. P.-C.

Sulphite Process

High Alpha-Cellulose from Vegetable Fiber Such As Sugar-Cane Fiber. Joaquin J. de la Roza. U. S. pat. 1,931,575 (Oct. 24, 1933).—For producing a high-quality, low-ash product of high alpha-cellulose content, material such as sugar cane fiber is treated with a concentrated aqueous solution of sulphur dioxide containing at least 12 lb. of sulphur dioxide per 100 lb. of bone-dry fiber, and subsequently the fiber is treated with alkali.—A. P.-C.

Black Liquor Recovery. Edward G. Goodell. U. S. pats. 1,933,254 and 1,933,255 (Oct. 31, 1933).—For recovery of alkali metal values and utilization of the heat content, the solids of black liquor, in substantially dry condition, are introduced into a smelting furnace and burned under reducing conditions; alkali metal values are fused off, and additional air is supplied to the combustion gases directly above the fuel bed and the gases are burned under a boiler. *No. 1,933,254* covers the method and *No. 1,933,255* the apparatus.—A. P.-C.

Process for the Alkalization of the Waste Liquors Resulting from the Manufacture of Sulphate and Sulphite Pulp to Prepare it for Dry Distillation. Erik Rinman, Djursholm, Sweden. Czech. pat. 42,934.—The alkalization takes place by means of barium or strontium oxide or hydroxide or mixtures of both, and in combination with a neutral substance such as coal dust. Besides oxides or hydroxides of calcium, magnesium, aluminum, zinc or iron or mixtures are added in a pulverized form to the waste liquors.—J. F. O.

Process for the Distillation of Tars and Pitch, Obtained As By-Products in the Manufacture of Sulphate Pulp from So-Called "Floating Rosin," Hydrogenation Products and Other Products Obtained from Wood. H. Bergstrom and K. Cederquist, Stockholm. Swed. pat. 78,693 (Jan. 28, 1930).—J. F. O.

Device for Soda Smelting Oven Forms. G. Edling, Sundsvall. Swed. pat. 79,078 (April 28, 1931).—System for cooling the oven.—J. F. O.

Utilization and Recovery of Causticized Sludge. W. Schmid. Papier-Fabr. 31, No. 39: 509-10 (Sept. 24, 1933). —The author tells of the possibility of recovery and utilizing the causticized sludge by burning or by the use of a modified method of causticizing.—J. F. O.

The High Pressure System. A. H. Lundberg. Pacific Pulp Paper Ind. 8, No. 2: 8-9 (Feb., 1934).—In this system, by varying the pressure in the pressure tower, and the amount of gas sent through the compressor, it is possible to produce at any time of the year sulphite acid of desired total and combined sulphur dioxide, regardless of the water temperature and moisture contents of wood and steam.—A. P.-C.

Sulphite Digester Circulating Systems. A. H. Lundberg. Pacific Pulp Paper Ind. 7, No. 10: 15-17 (Oct., 1933).—A brief discussion bringing out the advantages of the use of hot acid.—A. P.-C.

Heat Utilization in Pulp Cooking by the Sulphite Process. O. L. Berger. Paper Trade J. 98, No. 13: 40 (March 29, 1934).—Answers to a questionnaire sent out to obtain experience figures on the heat requirements for sulphite cooking by the various methods now used did not furnish any basis for comparison owing to the large number of variables, but seemed to indicate that large digesters require less steam per ton than smaller ones.—A. P.-C.

Acid Circulation and Gas Re-Absorption. A. D. Merrill. Pulp Paper Can. 35: 133-134 (Conv. Issue, 1934).—The advantages of circulating both liquor and the gas which separates in the top of the digester are pointed out. This effects uniform distribution throughout the digester of both temperature and acid concentration, and also maintains the strength of the acid at a higher level during the cook, so that a weaker initial cooking acid can be used. In the Lurgi system, all of the circulating piping and the syphon are located inside the digester.—A. P.-C.

Circulation with Heating Brings Automatic Control of Cooking. A. R. MacAllister. Pulp Paper Can. 35: 175-176 (Feb., 1934).—A discussion of the advantages of the Babcock-Wilcox forced-circulation, indirect-heating sulphite cooking system installed at the Kimberly-Clark mill, Kimberly, Wis. (Swanson, Lang and Smith, *Paper Trade J.* 95, No. 2: 33-38 (July 14, 1932).—A. P.-C.

Digester Circulation Systems. G. L. M. Hellstrom. Pulp Paper Can. 35: 135-136, 144 (Conv. Issue, 1934).—A brief discussion of forced circulation systems for sulphite cooking, bringing out more particularly the merits of the Hellstrom system. The chief characteristics are: (1) downward circulation inside the digester; (2) elimination of a screen at the liquor intake, a trash-type of circulating pump being used that can handle any chips that are carried by the circulating liquor; (3) introduction of a glass inspection piece just above the pump to observe the circulating liquor.—A. P.-C.

Penetration of Western Hemlock Chips by Calcium Bisulphite Liquor. C. E. Hrubesky and G. H. Chidester. Paper Trade J. 98, No. 7: 34-37 (Feb. 15, 1934). —The critical temperature above which western hemlock chips burn before complete penetration varies with the acid concentration and moisture in the chips, but under ordinary conditions appears to be 110°C.—A. P.-C.

Ammonium Bisulphite. Its Use as a Base in the Sulphite Process. E. O. Houghton. Pulp Paper Can. 35: 97-101 (Conv. Issue, 1934).—Experimental cooks were carried out to compare the relative effect of ammonium and calcium bisulphites in cooking acid on the properties of the pulp. Increasing concentration of ammonium bisulphite or combined sulphur dioxide tends to increase the cooking time necessary to obtain a pulp of a desired degree of digestion. Pulps cooked with a calcium-base acid have a much lower Mullen test than those cooked with an ammonium-base acid. For a given chlorine number, the alpha-cellulose content of the unbleached pulp is higher with calcium-base acid than with ammonium-base acid. Pulps from calcium-base acid yielded considerably more screenings.—A. P.-C.

Sulphite Cooking Process. N. N. Nepenin and P. V. Khviyuzov. Arbeiten den allrussichen Institutes fur die Papier-und Zellstoff-industrie No. 2: 3 (1933).—The relief gases consist of sulphur dioxide, carbon dioxide and nitrogen. The nitrogen is present in the relief gases until the end of the cook. The volume of carbon dioxide increases with the temperature and totals 1.43 per cent of the wood. Hydrogen, carbon monoxide and hydrocarbons are not present in the relief gases. The largest portion of the gases consist of sulphur dioxide. The free sulphur dioxide impregnates the wood more quickly than does combined sulphur dioxide. The absorption of the free sulphur dioxide takes place mainly in the early part of the cook. The sulphur consumption increases with the increased sulphur dioxide content of the cooking liquor. —C. J. W.

Use of Sulphite Waste Liquor for Making Cellular Composition. Hugh M. Spencer assignor to The Upson Co. U. S. pat. 1,936,887 (Nov. 28, 1933).—A mixture is formed of relatively finely divided inorganic material (such as ground limestone) and sulphite waste liquor, and the mixture is heated to cause it to intumesce and form a cellular product.—A. P.-C.

Treating Sulphite Waste Liquor to Obtain Emulsifying Substances. Hyman Limburg assignor to The Flintkote Corp. U. S. pat. 1,936,250 (Nov. 21, 1933).—Sulphite waste liquor is treated with an aluminous material such as glue or gelatin to form a precipitate containing sulphonic acids; the precipitate is dissolved with an alkali such as caustic soda and an acid is added to the solution to obtain a second precipitate containing sulphonic acids practically free from electrolytes; this second precipitate is suitable for preparing stable emulsions.—A. P.-C.

Artificial Leather. Roger B. Hill assignor to Brown Co. U. S. pat. 1,923,622 (Aug. 22, 1933).—A paper web is impregnated with latex containing a vegetable tanning agent such as oak, chestnut or quebracho extract and concentrated sulphite waste liquor, and dried.—A. P.-C.

Sulphite Digester System. Andreas Christensen assignor to Fibre Making Processes, Inc. U. S. pat. 1,943,289 (Jan. 16, 1934).—The invention provides for forced circulation of the liquor, which is withdrawn from the top of the digester, is passed downward through a tubular heater at a high velocity (to prevent scaling) and is forced back into the bottom of the digester. A suitable screen is provided at the top of the heater to remove any particles of calcium sulphite that might be entrained by the liquor. The digesters are interconnected and connected to the liquor supply in such a manner that liquor may be transferred from any digester to any other digester as required, or that additional liquor may be introduced into any one of the digesters in the course of the cook. —A. P.-C.

Process and Apparatus for Digesting Fibrous Material with Sulphite Liquor. Otto C. Schoenwerk assignor to Chemipulp Process, Inc. U. S. pat. 1,943,489 (Jan. 16, 1934).—The invention provides various improvements and simplifications in the chemipulp system of cooking. The side-relief liquor is carried separately into the suction of the lower ejector pump, and this pump also takes care of the blow-down gases and vapors, thereby shortening the cooking time and reducing the amount of equipment required. The low pressure gases and vapors are sent to the accumulator, instead of the liquor storage tanks, which enables maintaining a higher temperature of liquor in the accumulator. A very low pressure is maintained in the relief header without the use of any special regulating devices, thus materially reducing the length of the blow-down period.—A. P.-C.

Process and Apparatus for Recovering Heat, Gases and Fiber from Blow Pits. Carl B. Thorne. U. S. pats. 1,947,888 and 1,947,889 (Feb. 20, 1934).—*No. 1,947,889* —The hot liquor from the blow pit is passed through a heat exchanger where it gives up its sensible heat, *e. g.*, to the water used for washing the pulp. The partly heated washing water is then passed through other heat exchangers where it is further heated by means of the sensible heat of the relief liquor and relief gases from the digesters. The liquid mass, as it is discharged from the digester into the blow pit, is mixed with water in just sufficient quantity to ensure complete condensation of the steam that would otherwise be given off, but insufficient to dissolve any appreciable amount of the residual free sulphur dioxide given off from the liquor due to reduction of the reduction of the pressure in the blow pit as compared with the digester. *No. 1,947,888*—In order to prevent fiber loss, the liquor drawn off from the blow pit is returned thereto until a mat of sufficient thickness has built up on the false bottom to prevent loss of fiber.—A. P.-C.

Sulphite Digester. Fritz Krüger assignor to Zellstofffabrik Waldhof. U. S. pat. 1,943,221 (Jan. 9, 1934). —In a liquor circulating system for sulphite digesters, the conduit inside the digester consists of a circulator pipe provided with fine openings, which is situated close to the wall of the digester or is even partly embedded in the lining of the digester.—A. P.-C.

Sulphite Pulping Process. Gustaf Haglund assignor to Patentaktiebolaget Grödal-Ramen. U. S. pat. 1,940,136 (Dec. 19, 1933).—Wood chips are first cooked with a solution of a sulphurous acid salt such as sodium bisulphite and then, after withdrawal (if necessary) of a suitable amount of the original liquor from the digester, a solution of sulphur dioxide is added in waste liquor or wash water from a preceding operation, and the cooking is continued for a further period. There is thus obtained a high concentration of by-products in the waste liquor formed.—A. P.-C.

Treatment of Sulphite Digester Liquor. Albert D. Merrill. U. S. pat. 1,945,504 (Jan. 30, 1934).—Circulation is carried out at a considerably slower rate than usual (complete circulation of the digester contents in 25 to 40 min. instead of 15 to 20 min.) and is stopped about one to two hours before the end of the cook. During most of the cook, heating is effected indirectly by means of steam coils in the bottom cone of the digester; towards the end of the cook, steam is shut off from the coils and injected directly into the digester to drive off as much of the residual free sulphur dioxide as possible, and at the same time liquor may be withdrawn from the bottom of the digester and sprayed into the top. The condensate from the heating coils passes through a selector, which sends it to the boiler feed if it is pure and to the sewer if it is contaminated with liquor. Circulation is effected through the blow-off elbow of the digester.—A. P.-C.

Sulphite Pulping Process. Lloyd D. Smiley assignor to Chemipulp Process, Inc. U. S. pat. 1,945,205 (Jan. 30, 1934).—The relief gases are passed through a heat exchanger in the acid accumulator, to heat up the latter without being absorbed in the accumulator liquor, and are then absorbed in the raw in the acid storage tanks. A connection is also provided for sending the gases directly into the accumulator liquor if desired.—A. P.-C.

Device for Recovering Condensation Waters. Marius Sainte-Martine assignor to Papeteries Navarre. U. S. pat. 1,953,491 (April 4, 1934).—The condensate of steam used for the indirect cooking of sulphite pulp is passed through a suitable conductivity measuring apparatus, and is sent either to the boiler feed or to the sewer according as to whether its conductivity is below or above a predetermined value.—A. P.-C.

Improvement to Processes of Producing Chemical Pulp. James H. Ross. Fr. pat. 750,119. Means are provided for maintaining a practically constant or a suitably regulated concentration of active chemical during the course of the cook by adding, either continuously or at intervals, a more or less concentrated or diluted solution of the pulping reagent.—A. P.-C.

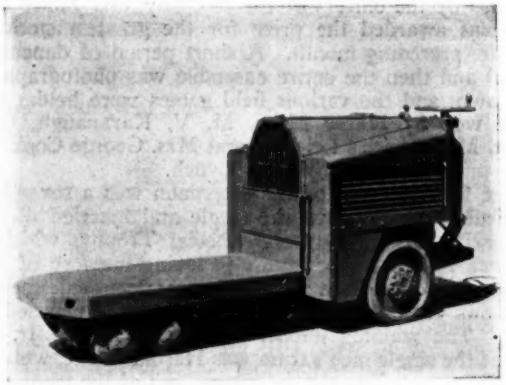
Sulphite Digestion of Wood. Henry Dreyfus. Brit. pat. 400,974 (Nov. 6, 1933).—An aqueous solution or solutions of bisulphite with little or no free sulphur dioxide are used throughout the digestion. The ratios of free to combined sulphur dioxide may be 1:2, 10 or 50, etc., in a 2 to 8 per cent solution of sodium, potassium, calcium, magnesium, etc., bisulphite. In an example spruce chips are heated at 140°C. and 10 atmospheres for 8 hrs. in a solution of alkali metal bisulphite 6 per cent and free sulphur dioxide 0.2 per cent, nitrogen being forced into the digester.—A. P.-C.

Ammoniation of Waste Sulphite Liquor and its Possible Utilization as a Fertilizer Material. M. Phillips, M. J. Goss, B. E. Brown and F. R. Brown. J. Wash. Acad. Sci. 24, No. 1 (Jan. 15, 1934).—The authors have treated the dry residue of sulphite waste liquor with ammonia and high temperatures and have investigated the fertilizer value of this ammoniated material which may contain up to 10.5 per cent nitrogen, only a slight percentage of which is ammoniacal nitrogen. They find that the product has some fertilizer value. It is not equal to either dried blood or a mixture of sodium nitrate and ammonium sulphate as a nitrogen source in the mixed fertilizer.—C. J. W.

New Gas Lift Truck

With its 3-ton, gas-operated Industrial Lift Truck, The Elwell-Parker Electric Company offers customers their choice of the kind of power and type of machine best qualified for the particular work needing to be done. The controls are grouped within easy reach of the operator's right hand: choke, electric starting button, throttle and shift lever (two speeds forward and two reverse); while dials and indicators are immediately before him on the instrument board. The horn button is on the end of the operator's hand grip. This arrangement permits the keeping of his hand continually on the steering wheel at his left.

The throttle control merits special mention. Located beneath the "balancing grip" by which the operator steadies himself when traveling at high speed, it puts the control of the truck literally "under the operator's thumb." A single pedal controls both the brake and the clutch. Pressing down the pedal releases the brake and engages the clutch. Releasing the pedal, automatically disengages the clutch and then applies the brakes. Brakes are set, the instant the operator steps off the platform or even lifts his foot; further protection, especially when loaded truck is standing on grades, is afforded by a special transmission gear lock.



ELWELL-PARKER GAS LIFT TRUCK

Hydraulic type of hoist mechanism, consisting of cylinder and valve, receives fluid under pressure from pump driven directly by motor. The cylinder, through a balanced lift, elevates the platform, mounted on rocking links. Extra clearance beneath the platform has been provided by placing the hoisting cylinder high in the truck. This avoids catching or foulding as the truck passes over toeplate to gangplank or into freight car, or rides over the top of a ramp.

The maker claims unusually rapid pick-up and ample power, under instant control, for operation emergencies such as climbing steep ramps. Rugged design and stability of travel, combined with quiet performance, are also emphasized. Parts for these gas trucks are exact duplicates of those used in hundreds of Elwell-Parker proven electric and gas-electric units, and hence are interchangeable. The Elwell-Parker Electric Company, Cleveland, Ohio, is the manufacturer of this new gas truck, as well as electric and gas-electric units.

Great Northern Paper Co. Project

[FROM OUR REGULAR CORRESPONDENT]

MILLINOCKET, Me., July 9, 1934.—Plans are in progress for the hydro-electric plant to be erected here for the Great Northern Paper Company. The engineer is H. J. Deutshbien Company, 350 Fifth Avenue, New York City.

Advertising Rag Content Papers

The Rag Content Paper Manufacturers will launch a new and different advertising campaign this Fall, according to H. L. Stedfeld. Paper merchants and their salesmen will be the mainspring of the new drive. "We feel," said Mr. Stedfeld, "that the educational effort to consumers, in the interest of rag content papers during the past seven years, has done its job. It is now time to capitalize on it."

The new plan calls for the discontinuance of "Rags in Paper," the monthly mailing to the printing trades and consumers. The bulk of the merchandising effort, starting in September, will be concentrated on two books now in preparation: "Why, Rag Papers" and "Making the Most from the Best."

"Why, Rag Papers" is a sample book designed to show the advantages of rag-content papers in graphic pictures and convincing language. Technical information is reduced to its simplest and most understandable form. It is a complete selling vehicle. Its purpose is to increase the desirability and sales of rag-content papers among printers and other paper users. "Making the Most from the Best" is a sales manual for paper merchants' salesmen and printing salesmen. It tells the story of more money in rag-content papers in a lively, interesting fashion. It proves its point, and backs up its arguments with direct appeals to personal gain, pride and prestige. These books, and the method planned for their circulation, are a wide departure from the promotions previously done by the Rag Content Paper Manufacturers.

Mill salesmen, paper merchants and their salesmen will be enlisted in the cause during July and August, preparatory to the start of the campaign in September. They will be thoroughly acquainted with the purpose and the promotions of the campaign before it is released. Trade paper and direct mail advertising will be used to talk-up the quality angle and to offer the two books to printers. But the bulk of the distribution and sales talk will come through the mill and merchants' salesmen. In turn, the printer and his salesmen will carry the story on to the consumer.

Since the success of the new plan depends greatly on the enthusiasm and cooperation of the man-power in the paper and graphic arts fields, every effort will be made to make the campaign as interesting and as helpful as possible for them. Several paper merchants, when asked for their opinion of the plan, said that a "back to quality" movement would receive their eager support. They intimated that the growing tendency to avoid inappropriate merchandise should be encouraged in the minds of paper and printing salesmen. The Rag Content Paper Manufacturers have appointed the H. L. Stedfeld Company, Inc., of New York to handle the campaign.

Buys Land for Recreational Purposes

[FROM OUR REGULAR CORRESPONDENT]

POTSDAM, N. Y., July 9, 1934.—Announcement was made recently by the Racquette River Paper Company of the purchase of several acres of land adjoining its mill property which is to be devoted to recreational purposes for the benefit of employees. An extensive sports program is now being prepared and the company is planning representation on the baseball diamond as well as in other athletic events. A council composed of officials and representatives from the various departments has been organized to supervise activities. As plans develop a more extensive program of sports is anticipated by employees.

Union Bag Develops Coffee Container

After two years of exhaustive research, the Union Bag and Paper Corporation announces the completely successful development of its new coffee shipping container. The container, specially constructed with two plies of kraft paper developed for this purpose, has successfully passed the most rigorous tests to which it has been put, to an extent surpassing even the expectations of research men who developed it, according to company officials.

The two-year test involved the use of more than 2,000,000 of the coffee shipping containers. During that time some 30,000,000 one-pound bags of coffee were conveyed in the containers. Regular and test shipments were made by freight, express, motor truck, steamship and various types of small mechanical and hand trucks. The cooperation of one of the country's largest coffee roasters was enlisted in the shipment to various parts of the country of the approximately 700 different brands it packs.

"The remarkable feature of the two-year test," it was stated by W. C. Mansfield, Unions sales promotion manager, "is that out of the more than 2,000,000 coffee shipping containers that were used during that period, involving every method of transportation and every conceivable sort of shipping condition, there was, so far as we could learn, not a single case of breakage."

The coffee shipping container, which has been approved by the Consolidated Freight Classification Committee, is manufactured in two sizes—for 12 and 24 one-pound bags. A distinctive feature of the container is its size flexibility. The very character of the container permits its adjustment to accommodate all variations in the heights of bags of coffee to be packed. Hence the container is never slack-filled. For the same reason, only one size is required for either of two units of 12 or 24 one-pound bags.

The double-ply construction of the shipping container bags has, according to company officials, enabled the bag to pass puncture tests with remarkable success. Similarly, the resilient construction affords a high degree of internal shock absorption and eliminates completely any bursting tendency.

The chief merits claimed for the container are its shipping safety, its reduced first cost as compared with the rigid types of containers, its economy in packing room costs, its reduction in shipping weight, its compactness and hence reduced need for storage space, its size flexibility and the extreme simplicity of its actual use.

French Cigarette Paper Industry Declines

The cigarette paper industry of France, which formerly dominated world markets, has been steadily losing ground in recent years, according to a report to the Commerce Department from its Paris office.

Prior to the war, the report points out, this French industry met with very little competition and accounted for more than 70 per cent of total world consumption of cigarette paper. Exports of this item were an important factor in enabling France to maintain a favorable balance of trade, it is pointed out.

During and after the war, several other countries built factories for the manufacture of cigarette paper and French producers began to feel the effects of foreign competition. Strenuous efforts were made to reinstate the French industry and further perfections in machinery were made, which enabled it again to satisfy world demand. At the present time approximately 90 per cent of French cigarette paper is marketed abroad.

The United States is by far the largest outlet for this French product, absorbing practically half of total exports. Because of increased duties and the sharp devaluation of the dollar, however, producers fear that this market may eventually be closed to them.

The declining export trade of France in cigarette paper is strikingly revealed in statistics for the past four years. Shipments abroad have fallen in value from 254,220,000 francs in 1930 to 148,334,00 francs in 1933. At the present time, according to the report, there is widespread propaganda in France to keep this industry alive, especially as so far it has never been subsidized in any manner.

Walker Goulard Plehn Outing

The second annual outing of the Walker Goulard Plehn Company, of 450 Pearl street, New York, N. Y., was held on Saturday, June 23, 1934, at Narragansett Inn, Lindenhurst, L. I. The affair was attended by a larger number of people than last year's outing and was voted a huge success.

After a hearty shore dinner, the gathering was addressed by the officers of the company, and James Burke, Jr., was awarded the prize for the greatest stock sales for the preceding month. A short period of dancing followed and then the entire ensemble was photographed on the lawn, and the various field games were held. Prizes were won by Harry Marz, M. V. Kavanaugh, George Cook, Mrs. Charles Leiseller and Mrs. George Cook. The door prize was won by John Lynch.

The feature event of the afternoon was a seven-inning baseball game, between the single and married men, for possession of the Burke Memorial Trophy, which was donated by the Burke family in loving memory of James Burke, Sr., one of the company's prominent salesmen who died this year. The game was won by the married men, 13-7. The winning pitcher was James Burke, Jr. The star of the single men's team was Harold Burke, who made three hits, including the only home run of the game.

After supper, the various prizes were awarded and every one danced until 9 P. M. The gathering then broke up, with every one tired but happy, and wishing it were next year, so they could begin all over again.

Roots-Connersville Blowers

Single-stage centrifugal blowers and exhausters are described in bulletin 120-B10, just published by Roots-Connersville Blower Corp., Connersville, Ind. While the bulletin referred to covers only the single-stage units, the company also manufactures a complete line of multi-stage equipment.

A table lists capacities up to 8000 CFM at pressures up to 3 lbs., but information regarding larger capacities and higher pressures is readily available upon request.

Type 'OI' blowers have the impeller mounted directly upon the extended electric motor or steam turbine shaft. In the Type 'OIB' blowers, each unit has its own shaft and bearings, adapting them to coupled, geared, or belted drives, and making this type blower especially suited to heavy duty service.

Type 'A' machines have the double inlet arrangement, which is just as important in the handling of gas or air as in the handling of liquids, according to the manufacturers.

All types have throttling or damper valves in the inlet, to regulate the volume of air. Casings are usually furnished in cast iron, but any machinable alloy or special metal may be had where conditions require their use. Impellers are designed to meet specified conditions, and may be either closed or open types. Aluminum alloy is standard material, but special impellers are available.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING JULY 7, 1934

CIGARETTE PAPER

H. H. Strauss, Sarcoxie, Bordeaux, 201 cs.; American Tobacco Co., Sarcoxie, Bordeaux, 150 cs.; Champagne Paper Corp., Sarcoxie, St. Nazaire, 271 cs.

WALL PAPER

S. K. Lonegren, Europa, Bremen, 1 cs.

NEWS PRINT

Star Co., Markland, Liverpool, N. S., 379 rolls; N. Y. Tribune, Markland, Liverpool, N. S., 1235 rolls; World Telegram, Markland, Liverpool, N. S., 623 rolls; Bridgeport Herald Corp., Markland, Liverpool, N. S., 35 rolls; Jay Madden Corp., Gen. von Steuben, Bremen, 134 rolls; Jay Madden Corp., Scanmail, Kotka, 335 rolls; Lunham & Reeve, Inc., Scanmail, Kotka, 230 rolls; Clinton Paper Co., Pr. Harding, Hamburg, 164 rolls; Clinton Paper Co., Pr. Harding, Hamburg, 207 rolls; Jay Madden Corp., Deutschland, Bremen, 137 rolls; Perkins Goodwin & Co., Deutschland, Hamburg, 156 rolls.

PRINTING PAPER

Steiner Paper Corp., Rotterdam, Rotterdam, 12 cs.; Titan Shipping Co., Pr. Harding, Hamburg, 2 cs.

WRAPPING PAPER

Van Oppen & Co., Pr. Adams, Genoa., 5 cs.; E. Dietzgen & Co., Deutschland, Bremen, 50 cs.; D. E. Bordner, Deutschland, Hamburg, 8 bls.

DRAWING PAPER

H. Reeve Angel & Co., Inc., American Farmer, London, 1 cs.; Keuffel & Esser Co., American Farmer, London, 2 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., American Farmer, London, 9 cs.; Satisfaction Supply Co., Pr. Harding, Havre, 4 cs.

BRISTOL BOARD

Keuffel & Esser Co., American Farmer, London, 1 cs.

COATED PAPER

Gevaert Co. of America, Black Eagle, Antwerp, 6 cs.

PHOTO PAPER

J. J. Gavin, Majestic, Southampton, 3 cs.

SURFACE COATED PAPER

Globe Shipping Co., Europa, Bremen, 20 crates; Globe Shipping Co., Deutschland, Hamburg, 2 cs.

METAL COATED PAPER

K. Pauli Co., Deutschland, Bremen, 56 cs.; K. Pauli Co., Deutschland, Hamburg, 3 cs.

PARCHMENT PAPER

L. A. Consmiller, Gen. von Steuben, Bremen, 3 cs.

DECALCOMANIAS

Sellers Transportation Co., Europa, Bremen, 6 cs.; ——, Europa, Bremen, 2 cs.

TRANSFER PICTURES

Rohner Gehrig & Co., Europa, Bremen, 16 cs.

TRANSFER PAPER

Phoenix Shipping Co., Deutschland, Hamburg, 16 cs.

TRACING PAPER

C. Bruning & Co., Deutschland, Bremen, 12 cs.

TISSUE PAPER

W. J. Byrnes, Majestic, Southampton, 2 cs.; F. C. Strype, Laconia, Liverpool, 4 cs.; Meadows Wye & Co., Laconia, Liverpool, 1 cs.

PAPER BAGS

J. B. Mast & Co., Black Eagle, Antwerp, 4 cs.

IVORY BOARD

R. Wilson Paper Corp., Rotterdam, Rotterdam, 20 cs.

MISCELLANEOUS PAPER

E. H. Sargent & Co., Gripsholm, Gothenburg, 2 cs.; T. N. Fairbanks, Tai Ping Yang, Yokohama, 2 cs.; E. Fougera & Co., Ile de France, Havre, 25 cs.; Corn Exchange Bank Trust Co., Komaki Maru, Kobe, 10 cs.; U. S. Envelope Co., Komaki Maru, Yokohama, 3 cs.

RAGS, BAGGINGS, ETC.

E. J. Keller Co., Inc., Black Eagle, ——, 52 bls. rags; E. J. Keller & Co., 110 bls, bagging; Castle & Overton, Inc., Black Eagle, Antwerp, 40 bls. bagging; W. Steck & Co., Black Eagle, Antwerp, 108 bls. flax waste; A. H. Searle, Black Eagle, Antwerp, 23 bls. rags; J. Flannery, Schodack, Havre, 34 bls. rags; ———, Caledonia, Glasgow, 56 bls. bagging; ———, Capulin, Leith, 272 bls. bagging; Chase National Bank, Capulin, Dundee, 187 bls. paper stock; ———, American Farmer, London, 38 bls. rags; Castle & Overton, Inc., Pan America, B. Ayres, 44 bls. old canvas; Mackenzie & Co., Chr. Sass Bar-

celona, 4 bls. rags; Manufacturers Trust Co., Chr. Sass, Barcelona, 90 bls. bagging; E. J. Keller Co., Inc., Chr. Sass, ———, 145 bls. paper stock; E. J. Keller Co., Inc., Chr. Sass, ———, 63 bls. bagging; Amtorg Trading Corp., Kalinin, Odessa, 2426 bls. rags; Darmstadt Scott & Courtney, Livenza, Genoa, 44 bls. rags; E. J. Keller Co., Inc., Livenza, Genoa, 45 bls. bagging; Chase National Bank, Deutschland, Hamburg, 458 bls. cotton waste; Manufacturers Trust Co., Deutschland, Hamburg, 100 bls. cotton waste; 1st Natl. Bank of Boston, Deutschland, Hamburg, 100 bls. cotton waste.

HIDE GLUE

——, Deutschland, Bremen, 200 bags hide glue.

OLD ROPE

Banco Coml. Italiane Trust Co., Teresa, Trieste, 90 rolls; ——, Deutschland, Hamburg, 22 bls.

CASEIN

Atterbury Bros., Inc., West Selene, B. Ayres, 804 bags; National City Bank, Pan America, B. Ayres, 334 bags; D. C. Andrews & Co., Deutschland, Hamburg, 50 bags.

WOOD PULP

Bulkley Dunton & Co., Hohenfels. — —1200 bls. sulphate, 200 tons; Bulkley Dunton & Co., Hohenfels, ———, 3000 bls. chemical, 600 tons; Johaneson Wales & Sparre, Inc., Hohenfels, Sundsvall, 3650 bls. sulphite, 670 tons; Johaneson Wales & Sparre, Inc., Hohenfels, Hernosand, 4666 bls. sulphate, 777 tons; Johaneson Wales & Sparre, Inc., Hohenfels, Hernosand, 600 bls. sulphite, 100 tons; J. Andersen & Co., Gripsholm, Gothenburg, 250 bls. sulphite; D. M. Hicks, Inc., Gripsholm, Gothenburg, 150 bls. chemical; Gottesman & Co., Inc., Gripsholm, Gothenburg, 1500 bls. sulphate; Lagerloef Trading Co., Scanmail, Kotka, 162 bls. sulphite, 27 tons; Lagerloef Trading Co., Scanmail, Kotka, 750 bls. sulphate, 150 tons; Lagerloef Trading Co., Scanmail, Wiborg, 410 bls. sulphite, 72 tons; Lagerloef Trading Co., Scanmail, Helsingfors, 459 bls. sulphite, 78 tons; E. J. Keller Co., Inc., Pr. Harding, ———, 327 bls. wood pulp, 50 tons; Lagerloef Trading Co., Argosy, Kemi, 4930 bls. sulphite, 826 tons; Castle & Overton, Inc., Deutschland, Hamburg, 1525 bls. wood pulp, 307 tons.

ALBANY IMPORTS

WEEK ENDING JULY 7, 1934

Johaneson, Wales & Sparre, Inc., Consul Corfitzon, Sundsvall, 2125 bls. sulphite, 380 tons; Johaneson, Wales & Sparre, Inc., Consul Corfitzon, Sundsvall, 250 bls. chemical, 50 tons; Mead Sales Co., Inc., Consul Corfitzon, Sundsvall, 125 bls. chemical, 25 tons; Perkins Goodwin & Co., Consul Corfitzon, Sundsvall, 6126 bls. sulphate, 1021 tons; Perkins Goodwin & Co., Consul Corfitzon, Soderhamn, 1150 bls. sulphite, 230 tons; Perkins Goodwin & Co., Consul Corfitzon, Soderhamn, 5000 bls. sulphate, 1016 tons; Bulkley Dunton & Co., Consul Corfitzon, ———, 5250 bls. sulphite, 950 tons; Bulkley Dunton & Co., Consul Corfitzon, ———, 1200 bls. sulphate, 200 tons; ———, Consul Corfitzon, Hernosand, 1200 bls. sulphate, 300 tons.

PORTLAND IMPORTS

WEEK ENDING JULY 7, 1934

Lagerloef Trading Co., Argosy, Helsingfors, 950 bls. sulphite, 156 tons; Lagerloef Trading Co., Argosy, Wiborg, 478 bls. sulphite, 80 tons; Lagerloef Trading Co., Argosy, Wiborg, 2656 bls. sulphate, 443 tons; Atterbury Bros., Inc., Argosy, Wiborg, 156 bls. sulphate, 26 tons; Castle & Overton, Inc., Argosy, Wiborg, 2675 bls. wood pulp, 527 tons; Price & Pierce, Ltd., Argosy, Wallvik, 1200 bls. sulphite, 200 tons; Price & Pierce, Ltd., Argosy, Wallvik, 3000 bls. sulphate, 500 tons; Gottesman & Co., Inc., Lagaholm, Sweden, 3892 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING JULY 7, 1934

Lagerloef Trading Co., Argosy, Helsingfors, 590 bls. sulphite, 100 tons; Stone & Downer, Argosy, Wiborg, 110 rolls newsprint; Lagerloef Trading Co., Argosy, Wiborg, 719 bls. sulphite, 124 tons; Lagerloef Trading Co., Argosy, Wiborg, 4722 bls. sulphate, 805 tons; Castle & Overton, Inc., Argosy, Wiborg, 3892 bls. wood pulp, 850 tons; Lagerloef Trading Co., Argosy, Kemi, 4785 bls. sulphate, 799 tons; Price & Pierce, Ltd., Argosy, Wallvik, 720 bls. sulphite, 120 tons; Price & Pierce, Ltd., Argosy, Wallvik, 250 bls. mechanical, 50 tons; G. F. Malcolm, Inc., Laconia, Liverpool, 14 cs. tissue paper; E. J. Keller Co., Inc., Augsburg, ———, 329 bls. wood pulp; Parsons & Whittemore, Inc., Augsburg, ———, 375 bls. wood pulp; Parsons & Whittemore, Inc., Capulin, ———, 150 bls. wood pulp; Gottesman & Co., Inc., Lagaholm, Sweden, 610 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING JULY 7, 1934

Gilman Paper Co., Markland, Liverpool, N. S., 1550 rolls news print; W. J. Jones Co., Capulin, London, 187 bls. rags; ——, Capulin, Bremen, 72 bls. rags; J. Andersen & Co., Capulin, Bremen, 252 bls. wood pulp, 50 tons; Manufacturers Trust Co., Capulin, Hamburg, 500 bls. wood pulp, 102 tons; ———, Capulin, Leith, 92 bls. rags; ———, Capulin, Dundee, 41 bls. rags; Castle & Overton, Inc., Capulin, Dundee, 65 bls. rags; ———, Chr. Sass, Barcelona, 98 bls. rags; Castle & Overton, Inc., Sarcoxie, Bordeaux, 284 bls. rags; H. G. Lichtenstein, Sarcoxie, Bordeaux, 174 bls. rags; E. J. Keller Co., Inc., Sarcoxie, ———, 87 bls. rags; Castle & Overton, Inc., Sarcoxie, St. Nazaire, 622 bls. rags; Lagerloef Trading Co., Argosy, Kemi, 3599 bls. sulphate, 601 tons.

BALTIMORE IMPORTS

WEEK ENDING JULY 7, 1934

Congoleum Nairn Co., Schodack, Havre, 226 bls. rags; Guaranty Trust Co., Tai Ping Yang, Kobe, 45 bls. rags; Parsons & Whittemore, Inc., City of Norfolk, ——, 500 bls. sulphite; Gottesman & Co., Inc., Roxen, Sweden, 1545 bls. wood pulp; Gottesman & Co., Inc., Rydboholm, Sweden, 610 bls. wood pulp.

NEWPORT NEWS IMPORTS

WEEK ENDING JULY 7, 1934

——. Hohenfels, Stugsund, 6700 bls. sulphate, 1340 tons; Mead Sales Co., Inc., Hohenfels, Sundsvall, 4500 bls. sulphate, 750 tons; Johaneson, Wales & Sparre, Inc., Hohenfels, Sundsvall, 250 bls. chemical, 50 tons.

Albert H. Vela Addresses Paper Salesmen

There was a large attendance of members and guests at the regular weekly luncheon and meeting of the Eastern Division of the Salesmen's Association of the Paper Industry, which was held in the Tavern Room of the Hotel Commodore, New York, on Monday last.

Albert H. Vela, a member of the Board of Fair Trade Practice, representing the Graphic Arts Code of the Sixteenth Zone, was the guest speaker. He gave an interesting and informative account of the way in which complaints of violations of the code had been adjusted by the Board.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, July 11, 1934.

Business in the local paper market is seasonal. Demand for the various standard grades of paper is light, as usual at this time of the year. Sales forces of the leading paper organizations continue optimistic and anticipate more livelier trading towards the middle of August. Prices are generally steady and unchanged.

The news print paper market continues to display strength. With an increase of 6 per cent in June compared with the corresponding month last year, however, the rate of expansion in total advertising lineage of the nine New York and two Brooklyn newspapers was the smallest since last Autumn, according to Media Records, Inc.

Conditions in the fine paper market are fairly satisfactory. Prices are holding to schedule. Tissues are moving into consumption in moderate volume. The coarse paper market is firm and summer specialties are in persistent request. Following the holidays, the paper board mills are increasing operations materially.

Mechanical Pulp

The ground wood pulp market is moderately active. Production of mechanical pulp in this country and abroad is still keyed to consumption, with the result that the industry is in a sound statistical position. The contract movement is well up to average for the season. Prices are maintained at formerly quoted levels.

Chemical Pulp

The position of the chemical pulp market is practically unchanged. Supplies of imported chemical pulp continue to arrive in good volume. Demand for kraft pulp is well sustained. Domestic and foreign bleached sulphite is still quoted at from $2.75 to $2.85, according to divisions. Other grades of chemical pulp are steady.

Old Rope and Bagging

Quietness prevails in the old rope market. Demand for both domestic and imported old manila rope is light. Small mixed rope is listless. Old rope quotations are fairly steady. The bagging market is irregular. Scrap and gunny bagging are only moderately active. Roofing bagging is holding up well.

Rags

The domestic rag market is marking time. Paper mill interest in new and old cotton rags is lacking at present. There are some inquiries around, however, for export account. Roofing grades are seasonally active. The imported rag market is still affected by the uncertainty of foreign exchange, and prices are nominal.

Waste Paper

Board mill demand for the lower grades of paper stock is restricted. With collections curtailed, however, prices continue fairly steady. The higher grades of waste paper are exhibiting a fairly strong undertone. White envelope cuttings are firm, with offerings limited. Hard and soft white shavings are holding to schedule.

Twine

The local twine market is rather dull at present. Lessened demand is generally attributed to the warm weather and the general holiday feeling prevailing at this season. In most quarters, however, a revival of trading is anticipated in the near future, which should last until the end of the year, at least. Prices are well maintained.

DEMAND IN PHILADELPHIA IRREGULAR

(Continued from page 15)

Thomas W. Price Company, Wm. A. Hentz, 14-16 South 5th street; Progressive Paper Company, Harry A. Clair, 134 North Delaware Avenue.

Quaker City Paper Company, R. S. Reed, 307 Vine street.

Ridgewood Paper Company, J. J. Glass, 924 Cherry street.

Sanitary Products Corporation, D. A. Wickerham, 2710 Lefevre street; Satterthwaite-Cobaugh Company, H. Satterthwaite, 22d and Market streets; Saxe Paper Company, Nathaniel Saxe, 320 Race street; Schuylkill Paper Company, Frederic Balch, 260 North 3d street; Schwartz & Co., Samuel Schwartz, 151 North 3d street; Seaman Paper Company, P. K. Smith, 122 East 42d street, New York; A. B. Sherrill, 718 Lafayette Building; Shryock Bros., Samuel S. Shryock, Jr., 924 Cherry street; J. L. N. Smythe Company, T. H. B. Smythe, 32 South 6th street; Southern Kraft Corporation, E. E. Ketcham, 220 East 42d street, New York; E. J. Spangler Company, Raymond C. Ramsey, 1237 North Howard street.

Temple Paper Company, Daniel J. Troy, 425 North 40th street; Terminal Paper Company, Cecil Bently, 401 North Broad street.

Union Bag and Paper Company, R. A. Lawley, 401 North Broad street.

S. Walter, Inc., H. Lefkowith, 144 North 5th street; D. L. Ward Company, Geo. W. Ward, 401 North Broad street; Wheeler Paper Corporation, Martin A. Mutz, 6344 City Line; Whiting-Patterson Company, A. E. Whiting, 320 North 13th street; Wilcox-Walter-Furlong, W. G. Wilcox, 17 South 6th street; Wilder Bros. Company, C. A. Wilder, 12th and Brown streets; Frank W. Winne & Sons, Inc., Amos M. Coath, 44 North Front street; Wolf Bros., Walter W. Wolf, 340 North 12th street; Wortendyke Manufacturing Company, E. B. Liny, 4735 13th street, N. W., Washington, D. C.

President Allen E. Whiting, of the Whiting-Patterson Company, who has been on the sick list, is now hibernating in the wilds of Massachusetts.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, July 11, 1934.

BLANC FIXE.—No radical changes transpired in the blanc fixe market. Prices are generally holding to schedule. The pulp is quoted at from $42.50 to $45 per ton, in bulk; while the powder is selling at from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—The bleaching powder market is moderately active. Contract shipments are moving in good volume for the season. Prices are steady and unchanged. Bleaching powder is quoted at from $1.90 to $2.15 per 100 pounds, in drums, at works.

CASEIN.—The casein market continues firm. Domestic standard ground is quoted at 12½ cents and finely ground at 13 cents per pound. Argentine standard ground is selling at 12 cents and finely ground at 13 cents per pound all in bags, car lot quantities.

CAUSTIC SODA.—Steadiness prevails in the caustic soda market, although demand has fallen off slightly. Solid caustic soda is quoted at from $2.60 to $3.10; while the flake and ground are selling at from $3 to $3.05 per 100 pounds, in large drums, at works.

CHINA CLAY.—The china clay market is fairly active. Shipments against contract are going forward regularly. Imported china clay is quoted at from $13.50 to $21 per ton, ship side; while domestic paper making clay is selling at from $5 to $12 per ton, at works.

CHLORINE.—Steadiness prevails in the chlorine market. The contract movement is well up to average. Prices are holding to schedule. Chlorine is quoted at from $2 to $2.25 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—The rosin market is irregular. The grades of gum rosin used in the paper mills are now quoted at from $5.25 to $5.40 per 280 pounds, in barrels, at works; while wood rosin is selling at $4.25 per 280 pounds, in barrels, at southern shipping points.

SALT CAKE.—Demand for salt cake is normal for the season. Prices remain unchanged. Salt cake is quoted at from $12 to $14, and chrome salt cake at from $12 to $12.50 per ton, at works. Imported salt cake is selling at from $12 to $12.50 per ton, on dock.

SODA ASH.—The soda ash market is exhibiting a strong undertone. Prices are holding to previously quoted levels, without difficulty. Quotations on soda ash, in car lots, at works, are as follows: in bulk, $1.10; in bags, $1.40; and in barrels, $1.50.

STARCH.—The position of the starch market is practically unchanged. Shipments against contract are moving regularly. Prices are steady. Special paper making starch is quoted at $3.01 per 100 pounds, in bags; and at $3.28 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—Conditions in the sulphate of alumina market are satisfactory. Prices remain unchanged. Commercial grades are quoted at from $1.35 to $1.50; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market is steady. Sulphur is quoted at $18 per long ton on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads, the quotation is $21 per ton.

TALC.—Most of the business transacted in the local talc market during the past week was along routine lines. Domestic talc is quoted at from $16 to $18 per ton, in bulk, at eastern mines; while imported talc is selling at from $23 to $30 per ton, on dock.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	—
Bonds	6.00	@	—
Index	6.00	@	—
Writings—			
Extra Superfine	6.50	@	—
Superfine	6.25	@	—
Tub sized	5.75	@	—
Engine sized	5.50	@	—
Book, Cased—			
S. & S. C.	5.35	@	5.75
S. & S. C. Litho.	5.60	@	6.00
M. F.	5.10	@	5.50
Coated and Enamel	5.90	@	6.55
Coated Litho	5.90	@	6.55
Tissues—Per Ream—			
White No. 1	.82½	@	.85
White No. 2	.67½	@	—
Anti-Tarnish M. G. only	1.00	@	—
Colored	.85	@	—
Kraft	.70	@	—
Manila	.67½	@	.70
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	4.00	@	4.50
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.50	@	3.50
Glassine—			
Bleached	.11	@	—
Unbleached	.09	@	—

(The following Quotations are Delivered New York)

News, per ton—			
Roll, contract	40.00	@	—
Rolls, spot	40.00	@	—
Sheets	45.00	@	—
Kraft—			
No. 1 Domestic	4.75	@	5.00
No. 2 Domestic	3.87½	@	—
Southern	3.87½	@	—
Boards—per ton—			
News	45.00	@	50.00
Chip	42.50	@	47.50
Sgl. Mla. Ll. Chip	52.50	@	55.00
Jute Lined Chip	52.50	@	55.00
White Patent Coated	65.00	@	70.00
Binders Boards	68.00	@	72.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	27.00	@	29.00
Dry	27.00	@	30.00

(F.o.b. Mill)

No. 1 Domestic and Canadian	24.00	@	29.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Division 1	2.85	@	—*
Division 2	2.80	@	—*
Division 3	2.75	@	—*
Prime Qualities—			
Class 1. All Prime Easy Bleaching	2.25	@	—*
Other Than Easy Bleaching—			
Class 2. Higher Than Standard	2.20	@	—*
Class 3. Standard	2.15	@	—*
Class 4. Lower than Standard	2.10	@	—

(On Dock, Atlantic Ports)

Kraft No. 1	1.85	@	1.90
Kraft No. 2	1.60	@	1.70

(F.o.b. Pulp Mill)

Kraft Domestic (Delivered)	1.60	@	2.75
Soda Bleached	2.50	@	—

*Add 60 Cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.50	@	7.00
Silesias No. 1	4.25	@	4.50
New Unbleached	6.75	@	7.25
New Soft Blacks	3.00	@	3.25
Blue Overall	4.00	@	4.25
Fancy	2.50	@	2.75
Washables	1 75	@	2.00
Mixed Khaki Cuttings	3.00	@	3.25
O. D. Khaki Cuttings	3.75	@	4.00
Men's Corduroy	1.50	@	1.75
New Mixed Blacks	2.50	@	2.75

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	@	3.25
White, No. 2—			
Repacked	1.75	@	2.25
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.25	@	1.50
Black Stockings	2.50	@	3.00
Roofing Rags—			
No. 1	1.10	@	1.25
No. 2	.80	@	.85
No. 3	.70	@	.75
No. 4	.65	@	.70
No. 5A	.60	@	.65

Foreign Rags

New Rags

New Dark Cuttings	1.60	@	1.70
New Mixed Cuttings	1.75	@	1.85
New Light Silesias	3.75	@	4.00
Light Flannelettes	3.75	@	4.00
Unbleached Cuttings	6.50	@	6.75
New White Cuttings	6.50	@	6.75
New Light Oxfords	3.25	@	3.50
New Light Prints	2.75	@	3.00

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	4.25	@	4.75
No. 2 White Cotton	3.25	@	3.75
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	1.75	@	1.85
French Blue Linens	2.30	@	2.40
German Blue Linens	2.15	@	2.25
German Blue Cottons	1.70	@	1.80
Checks and Blues	1.30	@	1.40
Linsey Garments	1.40	@	1.60
Dark Cottons	1.00	@	1.10
Old Shopperies	.95	@	1.00
New Shopperies	.90	@	1.00
French Blues	1.70	@	1.80

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.50	@	1.60
Domestic	1.40	@	1.50
Wool Tares, light	1.20	@	1.30
Wool Tares, heavy	1.20	@	1.30
Bright Bagging	1.15	@	1.25
Manila Rope—			
Foreign	2.35	@	2.45
Domestic	2.25	@	2.50
Small Mixed Rope	1.10	@	1.35
New Burlap Cut	2.00	@	2.25
Hessian Jute Threads—			
Foreign	2.60	@	2 75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.70	@	2.80
Ordinary Hard White No. 1	2.15	@	2.25
Hard White No. 2	1.95	@	2.05
Soft White No. 1	1.85	@	1.95
Flat Stock—			
Stitchless	.80	@	.90
Over issue Mag.	.80	@	.90
Solid Flat Book	.65	@	.75
Crumpled No. 1	.60	@	.65
Solid Book Ledger	1.50	@	1.65
Ledger Stock	1.00	@	1.10
New B. B. Chips	.30	@	.35
Manilas—			
New Env. Cut	1.70	@	1.80
New Cuttings	1.35	@	1.45
Print	Nominal		
Bogus Wrapper	.40	@	.50
Container	Nominal		
Old Kraft Machine—			
Compressed bales	1.10	@	1.20
News—			
No. 1 White News	1.00	@	1.10
Strictly Overissue	.65	@	.70
Strictly Folded	.35	@	.45
No. 1 Mixed Paper	.20	@	.25

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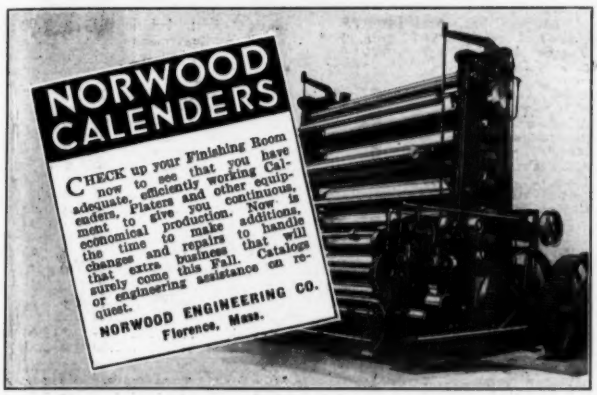
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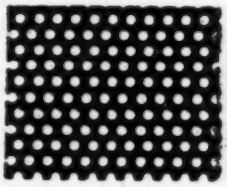

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Flexible Couplings—Catalog K Address: Department 45.

Twines

(F. o. b. Mill)

Cotton—			
B. C. 18 basis	.30	@	.32
No. 1	.20	@	.22
No. 2	.19	@	.20
No. 3	.17	@	.18
A. Italian, 18 basis	.36	@	.37
Finissed Jute—			
Dark, 18 basis	.18	@	.20
Light, 18 basis	.20	@	.22
Jute Wrapping, 3-6 Ply—			
No. 1	.15½	@	.16½
No. 2	.15	@	.16
Tube Rope—			
4-ply and larger	.09¼	@	.09¾
Fine Tube Rope—			
4-ply	.11¼	@	.11¾
3-ply	.14¼	@	.14¾
2-ply	.14¾	@	.14¾
Paper Makers Twine	.08¼	@	.13¼
Box Twine, 2-3 ply	.14¼	@	.14¾
White Hemp	.13¼	@	.16¾
Java Sisal—			
No. 1 Basis	.11½	@	—
No. 2 Basis	.10½	@	—
New Zealand Sisal	.11½	@	—
Sisal Lath Yarn—			
No. 1	.13½	@	.15½
No. 2	.11½	@	.13½
Manila Twine	.24½	@	.29½

CHICAGO

Paper

(F. o. b. Mill)

Rag Bond	.12	@	.50
Water Marked Sulphite Bond	.06¾	@	.11
Sulphite Bond	.05½	@	.11
Superfine Writing	.18	@	.24
No. 1 M. F. Book	.06½	@	.07¾
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07	@	.12
Coated Label	.07	@	.08½
No. 1 Manila	.04¼	@	.05¼
No. 1 Fibre	.04¾	@	.05¼
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	4.75	@	5.00
Southern Kraft	3.88	@	4.25
No. 2 Kraft	3.88	@	4.25
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.05¾	@	.07
White Tissue	.07	@	.09

(Delivered Central Territory)

News, per ton—			
Rolls, contract	41.00	@	—
Sheets, open	46.00	@	51.00
Boards, per ton—			
Plain Chip	46.50	@	—
Solid News	50.00	@	—
Manila Lined Chip	55.00	@	—
Patent coated	65.00	@	—
Container Lined—			
85 Test, per 1000 sq. ft.			1.70
100 Test, per 1000 sq. ft.			1.85

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope cuttings	1.70	@	2.00
No. 1 Hard White	1.40	@	1.65
No. 1 Soft White	1.25	@	1.50
Ledger & Writings	.70	@	.80
Solid Books	.60	@	.70
Blanks	1.00	@	1.05
Krafts	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.50	@	.55
Overissue News	.60	@	.70
Old Newspapers—			
No. 1	.50	@	.55
Mixed Papers—			
No. 1	.30	@	.35
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper

(Delivered Philadelphia)

Bonds	.05-9/10	@	.38
Ledgers	.06 9/10	@	.40
Writings—			
Superfine	.10	@	.18
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine No. 2	.10	@	.25
Fine No. 3	.05	@	.06
Book, M. F.	.05¼	@	.06¼
Book, S. S. & C.	.05	@	.07½
Book, Coated	.06½	@	.09
Coated Lithograph	.06¾	@	.08½
Label	.07	@	.11
No. 1 Jute Manila	6.25	@	—
Manila Sul., No. 1	5.25	@	—
Manila No. 2	3.00	@	—
No. 1 Kraft	5.00	@	—
Southern Kraft	4.75	@	—
Common Bogus	.03	@	.04½
News Print Rolls	46.00	@	55.00
Straw Board	40.00	@	45.00
News Board	50.00	@	—
Chip Board	45.00	@	—
Wood Pulp Board	70.00	@	85.00
Binder Boards—			
No. 1, per ton	75.00	@	80.00
No. 2, per ton	70.00	@	75.00
Carload lots	65.00	@	70.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.50	@	1.60
Best Tarred, 3-ply	2.00	@	2.25

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.03½	@	.04
New White, No. 2	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft	.02½	@	.03
New Unbleached	.05	@	.05½
Washable, No. 1	.01½	@	.02
Blue Overall	.03½	@	.04
Cottons—According to grades—			
Washable, No. 2	.02½	@	.03
New Blue	.01½	@	.03
Fancy	.01½	@	.03
New Light Seconds	.01½	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O.D.	.03	@	.04
No. 2 Mixed	.03	@	.04
Corduroy	.02	@	.03
New Canvas	.03½	@	.04½
New Black Mixed	.02½	@	.03½

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.50
Miscellaneous	1.75	@	2.25
M. G.	3.00	@	3.75
Thirds and Blues—			
Miscellaneous	1.00	@	1.50
Repacked	1.50	@	2.00
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.85

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	1.75
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.25	@	2.30
No. 2 Hard White	1.90	@	2.00
No. 1 Soft White	1.80	@	1.85
No. 2 Soft White	1.25	@	1.50
No. 1 Mixed	—	@	.75
No. 2 Mixed	—	@	.50
Solid Ledger Stock	1.50	@	1.60
Writing Paper	1.10	@	1.20
No. 1 Books, heavy	—	@	.70
No. 2 Books, light	—	@	.50
No. 1 New Manila	—	@	1.40
No. 1 Old Manila	—	@	.70
Print Manila	—	@	.60
Container Manila	—	@	.50
Old Kraft	1.00	@	1.10
Common Paper	—	@	.20
No. 1 Mixed Paper	—	@	.25
Straw Board Chip	—	@	.30
Binders Board Chip	—	@	.30
Corrugated Board	—	@	.50
Overissue News	—	@	.50
Old Newspapers	—	@	.30

BOSTON

Paper

(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.07¼	@	.11
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¼	@	.06½
Manila, Sul. No. 2	.03¼	@	.04½
No. 1 Kraft	.04½	@	.05
No. 2 Kraft	.03½	@	.04½
Southern Kraft (F. o. b. Boston)	.03½	@	.04½

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)

Common Bogus	.02	@	.02¾

(Delivered New England points)

News Print, rolls	44.50	@	—
Straw Board, rolls	.009	—	@35.00
Straw Board in Sheets, basis 35s to 70s	—	@40.00	
Filled News Board	45.00	@50.00	
Chip Board	42.50	@47.00	
Chip Board (Creasing)	45.00	@	—
Single Manila Lined Chip	52.50	@62.50	
Single White, Patent Coated News Board—Bender	62.50	@72.50	
Wood Pulp Board	70.00	@75.00	
Binder Boards	62.00	@75.00	

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	$2.20	@	2.35
No. 1 Soft White	1.75	@	2.00
No. 2 Mixed	.75	@	.80
Solid Ledger Books	1.75	@	—
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.95	@	1.05
No. 1 Books, heavy	.85	@	.95
No. 1 Books, light	.65	@	.75
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.25	@	1.30
No. 1 Old Manila	.75	@	.80
White Blank News	.90	@	1.00
No. 1 Kraft	.95	@	1.05
Manila	.70	@	.75
No. 1 Mixed Papers	.15	@	.20
Print Manila	.40	@	.45
Overissue News	.45	@	.50
Old Newspapers	.30	@	.35
Box Board Chips	.32½	@	.35
Corrugated Boxes	.30	@	.32½
Screening Wrappers	.50	@	.60

Bagging

(F. o. b. Boston)

Manila Rope—			
Foreign	2.00	@	2.12½
Domestic	2.25	@	2.37½
Transmission Rope	—	@	1.25
Mixed Strings	—	@	.30
Jute Rope	1.50	@	1.60
Jute Carpet Threads	.65	@	.70
Gunny No. 1—			
Foreign	1.40	@	1.45
Domestic	1.12½	@	1.17½
Bleachery Burlap	3.00	@	3.25
Scrap Burlap	1.15	@	1.20
Scrap Sisal	.90	@	1.10
Scrap Sisal for shredding	1.00	@	1.25
Wool Tares, heavy	1.25	@	1.30
New Burlap Cuttings	1.25	@	1.50
Australian Wool Pouches	2.25	@	2.50
Heavy Baling Bagging	1.40	@	1.50
Paper Mill Bagging	.90	@	1.10
Bagging No. 2	.55	@	.55

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.01¾	@	.02
New White No. 1	.06	@	.06½
New White No. 2	.04	@	.04½
Silesias No. 1	.04	@	—
New Black Silesias	.02½	@	.03
New Unbleached	.06½	@	.07
Blue Cheviot	—	@	4.65
Fancy	—	@	.02½
Washable	.02¼	@	—
Cottons—According to grades—			
Blue Overalls	—	@	.03¾
New Black, soft	.04	@	.04½
Khaki Cuttings	.03	@	.03¼
O. D. Khaki	.02¾	@	.03
Corduroy	.01¾	@	.02
New Canvas	—	@	.05
B.V.D. Cuttings	—	@	.06¾

Domestic Rags (Old)

(F. o. b. Boston)

Canvas	.04½	@	
White No. 1—			
Repacked	—	@	3.00
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	2.00	@	2.75
Miscellaneous	2.00	@	2.25
Twos and Blues	1.25	@	1.50
Thirds and Blues			
Repacked	2.00	@	2.75
Miscellaneous	2.00	@	2.25
Black Stockings	2.25	@	2.50
Roofing Stock			
No. 1	.80	@	.85
No. 2	.65	@	.70
No. 3	.55	@	.60

Foreign Rags

(F. o. b. Boston)

Dark Cottons	.85	@	.95
New White Shirt Cuttings	5.50	@	6.00
Dutch Blues	2.00	@	2.50
New Checks & Blues	2.50	@	3.00
Old Fustians	1.55	@	1.60
Old Linsey Garments	1.25	@	1.35

TORONTO

Paper

(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.10¼	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.10¼	@	—
No. 2 Colored	.09	@	.10
Ledgers (sulphite)			
Ledgers, No. 1	.34½	@	—
Ledgers, No. 2	.25½	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.20	@	—
No. 3 M. F. (Carloads)	5.70	@	—
No. 4 M. F. (carloads)	4.75	@	—
No. 1 S. C. (carloads)	6.65	@	—
No. 3 S. C. (carloads)	6.20	@	—
No. 4 S. C. (carloads)	5.20	@	—
No. 1 Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated unted	14.00	@	—
Wrapping—			
Rag Brown	4.25	@	—
White Wrap	2.22½	@	—
"B" Manila	4.75	@	—
No. 1 Manila	5.25	@	—
Fiber	5.25	@	—
Kraft, M. F.	5.75	@	—
Kraft No. 2	5.25	@	—

News, per ton—			
Rolls (contract)	45.50	@	—
Sheets	50.50	@	—

Pulp

(F. o. b. Mill)

Ground Wood	18.00	@	20.00
Sulphite easy bleaching	40.00	@	—
Sulphite, news grade	38.00	@	—
Sulphite, bleached	50.00	@	55.00
Sulphate	50.00	@	—

Old Waste Paper

(In carload lots, f. o. b. Toronto)

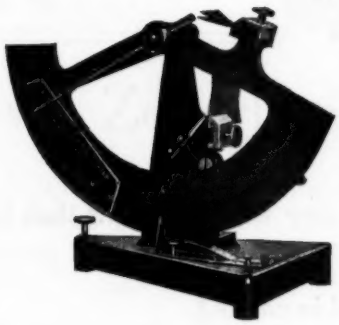
Shavings—			
White Env. Cut	2.00	@	2.30
Soft White	1.60	@	1.90
White Blk. News	1.25	@	1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	1.00
Light and Crumpled Book Stock	.80	@	.90
Leagers and Writings	1.00	@	1.05
Manilas—			
New Manila Cut	1.25	@	1.50
Printed Manilas	.70	@	.60
Kraft	1.25	@	1.50
News and Scrap—			
Strictly Overissue	.80	@	—
Strictly Folded	.60	@	—
No. 1 Mixed Paper	.50	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.06	@	.06¼
Fancy Shirt Cuttings	.02¼	@	.02½

Your Money's Worth



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